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REPORT OF OBSERVERS: MEDITERRANEAN THEATER OF OPERATIONS

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Volume I

The inclosures listed on Page 25 do not accompany the report. They are on file in the office of the Assistant Chief of Staff, G-2, Headquarters Army Ground Forces.

AGF

309-A-1/1

REPORT OF COLONEL HARRY McK. ROPER, F A, COVERING HIS OBSERVATIONS AS AN ARMY GROUND FORCE OBSERVER DURING THE LANDING AT FEDALA AND SUBSEQUENT ATTACK ON CASABLANCA, FRENCH MOROCCO BY THE THIRD AMPHIBIOUS DIVISION, (REINFORCED).

The Third Infantry Division, organized as an amphibious division and reinforced by additional units, was one of the Sub Task Forces of the Western Task Force which recently landed in French Morroco. This division, with its attached units, was designated as Sub Task Force "BRUSHWOOD". Its mission was "To capture and secure Fedala, French Morocco, and initiate operations to capture Casablanca from the rear (east)". The units of this force were assigned to 15 transports for movement to its overseas destination.

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"The inclosed report of Colonel Harry McK Roper, FA, observer from Headquarters Army Ground Forces of recent operations in North Africa, is furnished for your information."

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SUBJECT: Report on Observations Made as Observer with Task Force Brushwood (3rd Division Landing at FEDALA and Subsequent Attack on CASABLANCA, French Morocco).

TO: The Commanding General, Army Ground Forces.

1. Pursuant to letter orders of the Adjutant General's Office dated October 15, 1942, I left Washington D. C. on October 20, 1942 and reported to the Commanding Officer of the Hampton Roads Port of Embarkation and to the C. G. Advanced Headquarters of the Third Division which had been established at that port, on October 21, 1942.

2. In compliance with letter, your headquarters, dated October 19, 1942, Subject "Directive for Military Observer", File No. 201 (Roper, Harry McK.) (C) - GNGBI, the following report is submitted. My observations will be covered in the following sequence:

a. Loading of Ships at the Port.
b. Voyage to Destination.
c. Landing Operations at FEDALA and Attack on CASABLANCA.
d. Negotiations for Occupancy of the City.
e. Landing of Supplies from Transports.
f. Landing of Troops and Supplies in Second Convoy, (D + 5).
g. Particular Observations Concerning:

(1) Infantry.
(2) Field Artillery.
(3) Antitank Weapons.
(4) Antiaircraft Fire.
(5) Armored Force Team.
(6) Communications.
(7) Air Support.
(8) Naval Gunfire Support.
(9) Engineers.
(10) Motors.
(11) Medical.
(12) Chaplain Activities.

h. Recommendations for Future Training and Equipment.
i. General Observations and Conclusions.

3. a. Loading of Ships at the Port.

I found, upon arrival at the port of Hampton Roads, that advanced detachments of the BRUSHWOOD FORCE were actively engaged in supervising the loading of supplies and vehicles on the assigned transports. The transport quartermasters on each ship had prepared stowage diagrams and had been furnished necessary personnel and tonnage tables for all units of the 3rd Division.

For units of the force which were not part of the 3rd Division, information necessary for efficient loading was lacking in many cases. Air Force units had failed to submit personnel and tonnage tables and much equipment for these units arrived at the various piers for loading without necessary advance data being furnished to the transport quartermasters. Because of this lack of information, the officers charged with loading the ships had not allowed sufficient space on the transports for equipment which the commanding officers of these attached units thought necessary to be loaded. In some instances, information concerning cargo was furnished in cubic footage or tonnage only. In all cases, both the weight and size of cargo should be indicated.

Another instance illustrating the difficulties encountered through the lack of definite information took place in loading of the transport ANCON. The transport quartermaster of that ship was told that he could figure on loading cargo totalling 1633 long tons. He made his initial plans accordingly. Shortly after he began loading, he found that the weight of ammunition was greater than he expected by 180 tons because of the weight of crates on ammunition which had not been expected. In addition, Air Force ammunition, which weighed 120 tons, was added, and it was necessary to add cargo for attached units totalling 25 tons, or a total of 325 tons more than had been anticipated. After one or two days of loading, and when the ship had been loaded with about 500 tons of equipment, he was informed by the naval authorities that he could only load 715 tons more. This, in fact, reduced the total cargo which he had planned on carrying on the ANCON by approximately 400 tons. The transport quartermaster solved this problem by reducing ammunition from 15 units to 11½ units of fire. It was necessary also to reduce "B" rations from 11½ days to 7½ days to care for the excess tonnage and these rations were actually unloaded from the ship.

Information received by the transport quartermasters, in addition to being lacking, was, in some instances, in error. For instance, the weight of three rounds of 75mm ammunition in clover leaf cartons is listed in FM 101-10 as 69 pounds. Plans for loading this ammunition were based on these data. The ammunition was received at the port in boxes of three clover leaves to the box, and each box weighed 231 pounds. This was an additional weight not planned upon of 24 pounds for the three clover leaves (3 x 69 = 207).

Much difficulty was encountered in the loading of ammunition because of the fact that approximately 156 cars of ammunition arrived at the port

marked "Ammunition for Cannon" or something similar thereto. Cars had to be opened and then switched to the proper place after it was know what type of ammunition was in each car.

I was surprised to find that valuable cargo space for the 3rd Division had been taken up by tanks of Western Task Force Headquarters. Eight light tanks were loaded for use by the members of the task force staff. I could not see at the time how the tanks could be gainfully employed until such time as the 3rd Division had accomplished its mission. This later proved to be correct and tanks for this headquarters could well have been brought on the succeeding convoy.

Some vehicles, which should have been combat loaded, were not loaded so that they could be quickly taken from the holds, placed in a tank lighter, and carried ashore ready for combat. Isaw on the ANCON two half-tracks of the 443rd CA, mounted with a 37mm gun and two .50 caliber machine guns, loaded in a hold surrounded by rations and ammunition to such an extent that these fighting vehicles could not have been removed until ammunition and rations had been taken ashore. Other vehicles were not equipped with necessary ammunition prior to being loaded.

No information concerning the rules for life aboard ship was disseminated on some of the ships. It is necessary that information, in printed form, be placed in the hands of each officer upon boarding a transport and that he be required to read that prior to the hour of sailing. The information contained in such written matter should be similarly transmitted to enlisted men when they are embarked. Necessary instructions should be given in reference to smoking, throwing of articles overboard, restricted areas aboard ship, and other disciplinary restrictions which are essential to a safe voyage.

Although the Port in Hampton Roads had only recently organized, I do not believe that necessary protection to safeguard the port against the entry of unauthorized persons was furnished. Close supervision of the gates should be maintained and no person should be allowed entry without making his identity clear. Similar restrictions should be maintained at each transport while docked.

CONCLUSION. At least two weeks in advance of the date when loading of supplies is to begin, transport quartermasters of combat loaded ships should have in their hands detailed lists of equipment, including the weight and size of all articles, in order that plans may be made for loading of cargo.

When vehicles are to be combat loaded, they should be processed through an ammunition line where the different types of ammunition required to complete its load would be placed upon the vehicle prior to the time it is actually loaded upon the ship. Careful check should be made after the vehicle has passed through this line to see that the required ammunition is on the vehicle and properly stowed.

Vehicles must be so loaded aboard a ship that they can be easily unloaded, placed in a tank lighter, and sent ashore ready for combat.

3. b. Voyage to Destination.

The ships comprising the BRUSHWOOD TASK FORCE sailed from Newport News about 0730, October 24th, under an overcast sky. Shortly after passing Cape Henry Light, the formation of the convoy was complete and proceeded eastward under heavy naval escort. For the first two or three days the sky continued overcast and the sea was smooth. On the fourth day, a clear sky and calm sea were encountered until about November 3rd when small squalls and choppy seas were met. On November 7th, the seas calmed and on the evening of November 7th - 8th, there was a light rain and mist; the sea was smooth with a slight swell. The ship upon which I was a passenger, made all necessary arrangements during the afternoon of November 7th to expedite the unloading for the operation. Winches were tested, cables greased, material upon top of the hatch covers was removed; in all, it seemed that all possible plans had been made. In talking to other officers, I found that such necessary preliminary arrangements had not been made upon some of the other ships.

Everything went smoothly in the convoy and at about 0030, November 8, the Casablanca light was sighted. Shortly thereafter, that light, as well as other lights in the city, was extinguished. It was evident that we were south of the transport area and it was necessary to move 90 degrees to the left. Instructions were given to the convoy to perform two 45 degree turns in order to make the required movement. Apparently, many of the ships of the convoy failed to complete these turns and shortly after the turns had been ordered the convoy formation was broken and many of the ships were not in their proper places or planned positions.

Detailed plans for the employment of the small boats for the task force had been based on the movement from one ship to another of these boats in order to accomodate the battalion landing teams. In view of the failure of the ships in the convoy to maintain their positions, it was evident to the army commander as well as to the commodore of transports that these plans could not be followed. As a result, the whole small boat employment plan, which had been so carefully and efficiently evolved, was not workable. Accordingly, General Anderson, Brushwood commander, directed all combat troops to go ashore in whatever boats were available to them on the ship on which they were loaded until the situation clarified. As a result, combat teams loaded and went ashore more or less in increments.

2. c. Landing Operations at FEDALA and Attack on CASABLANCA.

H hour for the landing had been set at 0400 on the morning of November 8. In view of the fact that the commanding general of the Task Force had been informed that many of the transports were not in their proper positions and small boats would not be at designated points as planned, H hour was delayed

until 0445. In addition to the transports being out of place, I learned, from members of the 3rd Division staff, that the delay of H hour was caused by the failure of some of the transports to prepare for unloading prior to reaching the transport area. Combat elements were unloaded and the leading waves reached the beach at 0500. The beaches were marked as indicated in the annex to the Division Field Order Number One, which is included in inclosure No. 2. Detailed information concerning the landing at FEDALA and subsequent movement to the south and attack on CASABLANCA is covered by inclosure No. 3.

Original plans for the operation did not call for naval gunfire support except when requested by the troops ashore. Instructions had been given to the warships that illuminated search lights would be fired upon, and if shore batteries open fire upon naval vessels, such shore batteries would be silenced by gun fire.

Apparently, a shore battery opened fire on the navy ships because from 0615 until 0730 a heavy bombardment was carried on against FORT BLONDIN and the enemy batteries in FEDALA by naval destroyers supported by the cruisers BRROKLYN and AGUSTA, together with the battleship MASSACHUSETTS. These heavier ships and some destroyers later in the morning attacked CASABLANCA harbor in conjunction with naval dive bombers.

The fire by the navy succeeded in silencing most of the guns on FORT BLONDIN and FEDALA POINT. The firing on FEDALA POINT was not too accurate and some members of the 7th Infantry, who had penetrated into the town, were injured and killed by the fire of the navy guns. Many houses and stores in the town were destroyed.

Complete surprise had been obtained by our forces, in spite of the fact that the radio broadcasts of President Roosevelt and General Eisenhower were made and heard at 0100, or about four hours before our initial waves reached the beaches. This broadcast being made at that time might well have jeopardized the entire operation of the BRUSHWOOD FORCE, as the broadcast stated that a landing had already been made on the Atlantic coast of AFRICA. A better coordination in the time of making this broadcast should have been accomplished

The movement of troops and supplies from the transports to the beaches left much to be desired. The sea was very smooth with swells which created no particular problem. The surf was not high on D day, November 8, and did not reach a height of over four feet at any time. During most of the day, it was much less than four feet high. Many cases were found where coxswains of the small boats had no idea as to the direction of shore or to what beach they were supposed to go. Some of these navy men were incompetent to handle small boats and upon landing, failed to make reasonable attempts to unbeach their boats and return to their ships for additional loads.

The beaches which had been selected for this operation extended over a distance of from four to five miles. Actual landings were made or attempt-

ed on a front of from 35 to 40 miles. The 204th MP Company, for instance, was taken by mistake into CASABLANCA harbor in four small boats and two of these boats were fired upon by a French cruiser or destroyer. The captain and several members of his company were killed, about 45 of the men were made prisoners while two boats escaped. A platoon of the 443rd CA was landed about 20 miles north of FEDALA by mistake and was captured with its four half-tracks.

By nightfall of November 8 (D day) the beaches were littered with abandoned small boats and by personal observation I estimate that on the afternoon of November 9 there were on the various beaches in and around FEDALA about 150 of the total 320 small boats, wrecked or abandoned.

Fortunately, the harbor of FEDALA was opened for use by boats at 1600, November 8, but although the naval authorities had been so informed, some boats continued to use the beaches until the afternoon of November 9. During the morning of November 9, three boat loads of personnel and equipment overturned about 100 yards off shore. No one survived from two of those boats. It is my opinion that the personnel was dragged to the bottom by their heavy equipment.

As indicated in the detailed description of the operation of the Third Division, hostilities were ceased on the morning of November 11, at about 0700. Inasmuch as the information concerning the cessation of the hostilities was very late in its receipt at 3rd Division Headquarters, there was much anxiety as to whether or not this information could be successfully transmitted to all units in time to prevent unnecessary firing. The naval dive bomber planes were actually in the air ready to attack their targets, but the naval liaison officer at Division headquarters was successful in relaying the information concerning the cancellation of the attack order. Some difficulty was encountered in getting the message to the armored team and the commander of that unit fired some shots at the hour he was to begin his attack (0730). Failing to see the dive bombers execute their mission, he assumed that the attack had been called off and he did not move his unit. Shortly after 0730 he was informed of the armistice. The only other shots fired were by the 39th FA Bn which made a registration at daybreak on a waterworks tower on the outskirts of CASABLANCA. It is not believed that any of this fire caused material damage. Guns of the 10th FA battalion were loaded ready to fire when they received the information concerning the armistice at 0729.

CONCLUSION. Before undertaking amphibious operations, boat crews must be trained thoroughly. A coxswain of a small boat has a valuable cargo and he should be a man of intelligence, good judgment and initiative. He must have thorough training in his duties and be instructed carefully before proceeding ashore as to his route and destination.

In any movement from ship to shore in small boats, personnel in the boats should remove their equipment, except life preservers, from their [illegible] have it ready to be jettisoned in case of accident.

Equipment should be stripped to a minimum.

Suitable salvage groups should be used early in amphibious operations to unbeach stranded and disabled boats.

2. d. Negotiations for the Occupancy of the City

About 0715, November 11, upon instructions of Major General Anderson, Brigadier General Eagles, Assistant Division Commander, with a staff officer and myself proceeded to CASABLANCA to contact the military authorities with reference to further operations. General Eagles and his party proceeded to CASABLANCA in a ¼-ton truck accompanied by another truck mounted with a .30 caliber machine gun, another with an American flag. On the way to town he was met by some emissaries from General Desre', the French army commander of the CASABLANCA area, who led him to the military headquarters.

On the way into the city, the American party passed through the streets lined with cheering throngs and it was evident that the majority of citizens of the town had a friendly welcome in store for our forces.

At that conference, General Eagles, upon instructions from Major General Patton, arranged for Admiral Michelier, the commander of all forces in the vicinity of CASABLANCA, to go to see General Patton at FEDALA at 1130 to work out details concerning the terms of the armistice. General Eagles arranged to accompany Admiral Michelier from French headquarters to FEDALA. Present at the conference with General Desre' was Admiral Ronarch, commanding officer of the naval forces in the locality. There being some time between the hour when this conference was completed and when General Eagles was to meet Admiral Michelier, the American party then made a tour of the CASABLANCA harbor.

The harbor was badly damaged. There were in the outer area of the port several French destroyers and a cruiser badly burned and damaged. The French battleship Jean Bart was considerably battered with what appeared to be 16 inch shell or air bomb hits in the bow and stern, although its own 16 inch guns did not appear to be damaged. In addition to the disabled naval vessels, there were many battered civilian ships, some of which were overturned. The warehouses and roads all gave grim evidence of the heavy bombardment which they had received from our naval air and surface ships.

After the tour of the port, General Eagles and his party returned to the French Division Headquarters where he met Admiral Michelier and started to FEDALA to meet General Patton.

At this time, General Anderson went into a conference with General Desre' and Admiral Ronarch. The following points were covered in the conference between General Anderson and the French officers:

(1) The French desired to send certain troops, then in CASABLANCA, to their barracks in a town at a distance of about 30 miles from CASABLANCA. General Anderson agreed to this.

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(2) Mutual arrangements were made to clear the battle fields of the dead on both sides and places were designated for burial of American dead.

(3) Arrangements were made to get our personnel into the morgue to identify and secure our dead.

(4) Necessary agreements were reached for exchange of prisoners.

After this friendly conference, General Anderson took leave of the French authorities and awaited the results of the conferences between General Patton, Admiral Michelier, and other high ranking French officials. As a result of all these conferences, agreements were reached between the American and French authorities for mutual cooperation and control of the city of CASABLANCA, and for police and guard of the dock area, pending the result of final negotiations.

On November 21, after the arrival of units of the second convoy, all units of the 3rd Division were removed from CASABLANCA and occupied bivouac positions on the outskirts of the town. These positions were generally selected so that defensive positions could be quickly occupied and, if necessary, a defense of the city be maintained.

2. e. Landing of Supplies from Transports.

Original plans called for the unloading of supplies on three beaches, the beaches to be handled by shore party personnel from the 36th Engineers. During the day and night of November 8th, a limited supply of ammunition, gasoline, water and rations was unloaded at these beaches. Most of this time (November 8) the beaches were under fire by artillery, machine guns and bombs from planes, while supplies were carried back of the sand dunes about 100 yards inland. It was impractical to establish elaborate dumps.

Communication between the shore party and ships was not satisfactory and was not effectively established until about 1600, November 9. Complete communications were not in operation until Tuesday, November 10th. This lack of communications was due to incomplete assemblies of sets arriving at the shore and to the drowning out of the equipment which did arrive.

At about 1800, November 8, the port was available for landing of supplies directly and in safety. In spite of this small boats continued to use the beaches durnig the night of November 8 - 9, and until about noon of November 9 with subsequent loss of boats and supplies. Finally, during the afternoon of November 9th, use was made of the port and small boats began to pour into the harbor with supplies and personnel.

Land transportation facilities were few and great piles of ammunition, rations, water, gas, etc., accumulated at the various unloading points because of the lack of transportation to move supplies from the harbor to [illegible]

lying dumps. In this connection, the amphibious tractors were used mainly as trucks for moving supplies on shore. In only a few instances were these tractors used amphibiously.

At about 1300, November 9, the first transport came into FEDALA harbor, this was the ARCTURUS which carried part of the armored team. Upon the unloading of this vessel another was brought in as docking facilities were only available for one large ship.

During this period, November 8 - 11, the transports remained off FEDALA in a rather dangerous place and at about 1600, November 11, the HEWES was sunk by a torpedo. The other transports remained in the FEDALA area on November 12, and at about 1645, November 12, three more ships, the RUTLEDGE, BLISS, and SCOTT were sunk by torpedoes. About 2000 survivors from these ships came into FEDALA and the medical authorities did excellent work in handling them. The Casino, the Miramar hotel, the Catholic church, civilian homes and other places were used as hospitals. The doctors handled about 500 cases and 100 plasmic transfusions were given with flashlights, as the only means of illumination. Most of the bad cases were from burning.

The 3rd QM Battalion was not landed until November 10th at 1300. Had it been landed sooner, it would have materially assisted in the setting up of distributing points in the FEDALA area much earlier.

On November 13, the remaining transports entered CASABLANCA harbor and proceeded to finish unloading. The 20th Engineers and the 36th Engineers were unable to cope with the tremendous task of handling the supplies and it was necessary to keep three battalions of the 3rd Division on duty at the docks to assist in unloading. Transportation facilities being limited, the stores piled high on the docks. Time was essential in order to unload the ships to take care of the D + 5 convoy which had arrived in the area and the unloading could not wait the movement of the supplies then on the dock. Western Task Force Headquarters supervised these operations using the engineer troops and the three battalions from the Third Division as laborers.

The transports beign unloaded, they left CASABLANCA during the night of November 18 - 19 for their return voyage to the States. In the afternoon of November 19th, the D + 5 convoy entered the harbor and all ships were safely inside the protected area by night. One ship of this convoy went to FEDALA for unloading.

CONCLUSION. The amphibious tractors which accompanied this force were not used to any gr at extent amphibiously, and I do not believe they were worth the cargo space which was taken in loading them.

In an operation of such magnitude as this one, with many units other than purely fighting units attached, it is believed that the shore party, as normally constituted, cannot handle both the unloading of boats at the

shore and the establishment of distributing points. Additional service units should be assigned and given an early priority in being unloaded.

NOTE: As part of Inclosure No. 2, there is included a tabulation giving the losses in vehicles by units of the 3rd Division in the course of the landing of that unit at FEDALA.

2. f. Landing of Troops and Supplies in Second Convoy (D + 5).

Upon arrival of the ships of this convoy in the harbor it was necessary to dock most of them side by side at the piers with two ships adjacent to each other. Space was not available for all, even using this procedure, due to French ships which had been bombed occupying valuable space. Immediately upon docking, troops began to be debarked and were moved to previously selected bivouac areas on the outskirts of CASABLANCA. All troops were off by noon of November 21. Among the troops in this convoy was a port of embarkation unit, so the engineer and divisional troops were released from the arduous task of unloading the second convoy. There was no special incident to this unloading.

In order to protect the harbor from air attack the BRUSHWOOD Commander used the 443rd and 436th CA units which had accompanied his force. No air attack was made on either convoy while in the harbor. In addition to the anti-aircraft protection, the Air Force maintained a group of eight P-40 fighters on continuous air alert over the city for most of the period.

2. g. Particular Observations Concerning:

(1) Infantry.

The Infantry of the 3rd Division appeared to be determined, well trained and well officered. The commanders seemed to know exactly where they were to go and in cases where previous plans went awry they used their initiative to straighten the situation. This was especially evidenced by the fact that two companies of the 2nd Battalion, 7th Infantry, after having been landed far away from their assigned beach, attacked FORT BLONDIN in conjunction with the 1st Battalion of the 30th Infantry, whose mission it was to take. Throughout the division I do not believe that the Infantry had received enough combined training with field artillery using live ammunition and firing over the infantry's heads.

Although the use of slit trenches should be emphasized, I failed to see anyone who did not dig in when he stopped for any length of time.

Two of our own planes were shot down by our ground troops. One of these planes was a navy fighter, the other an artillery cub. In spite of these successful attacks, much ammunition was wasted by men armed with small arms firing at planes.

Because of lack of normal communications in this and probably in most amphibious operations, much empnasis must be placed on the use of messengers. The training of such personnel should be stressed. It was, and will frequently be, difficult for a battalion commander to know exactly where the regimental CP is located and I, therefore, believe that regiment should, as soon as a CP is established, send a messenger to the battalions who can return with the battalion messenger.

This division received many officer and enlisted replacements just prior to sailing. This was unfortuate, as practically none received ampnibious training.

The equipment now carried by officers and men is too heavy for amphibious work. I am sure that some men were drowned in capsized landing boats because of heavy equipment.

I heard no complaints concer ing the inadequacy of infantry equipment other than its weight. I observed no mal-functioning of equipment due to faulty design or construction.

CONCLUSION: In training, every opportunity should be taken to conduct exercises in which infantry and other ground units will undergo the experience of having artillery fire over their heads. In this training an infantry soldier can be taught to estimate the distance in which shells are bursting from him and not take cover unnecessarily in making an advance. Similarly, he should be able to distinguish between the sound of supporting artillery and that of the enemy.

It is believed that troops armed with small arms should not open fire on a plane until a plane opens fire on them, for not before that time will a plane be usually within effective range of their weapons.

Emphasis in identification of planes should be placed on the identification of Allied planes rather than those of the enemy. All unidentified planes will be considered as enemy planes.

Replacements for units going into combat should reach that unit at least two months prior to the time in which operations are to begin.

Careful study should be made with a view of lightening equipment carried by officers and men in ampnibious operations.

The use of messengers in landing operations, especially in the initial phases of them, is essential and training of this personnel should be emphasized.

(2) Field Artillery.

The field artillery in this operation was employed initially with a battery of 75mm pack howitzers attached to each battalion landing team and a battery of 105mm howitzers mounted on half-tracks attached to

each regimental landing group.

The artillery is normally landed in one of the battalion waves and comes in on call.

Because of the failure of the boat waves to come in together, and because of the lack of sufficient small boats, the batteries, in practically all cases, came in by increments.

The actual movement of the units is covered in the history of the battle, (Inclosure No. 3).

On the whole, the artillery functioned well and was able to give support to the infantry when needed. Although the idea of pushing artillery forward to the support of infantry is commendable, on several occasions the artillery was pushed too far forward and was practically in the front lines of our infantry. This gave them no maneuver room and did not take advantage of the range of their weapons. On one occasion, Battery A of the 10th FA was uncovered by its infantry and had to retire without its weapons. The unit then went forward and with its rifles re-took its pieces which had not as yet been touched by the French.

Although the artillery of this force was furnished approximately 30% of their ammunition with M54, time fuses, little opportunity had been offered to fire this type of shell in their training. Very few of the officers with the artillery units had ever adjusted time fire. A suitable fuse setter for setting the M54 fuse was not furnished but hand wrenches had been improvised.

The ammunition furnished was of many different lot numbers. In the 39th FA Bn there was present for the final attack on CASABLANCA approximately 1500 shells with twelve different powder lot numbers for the M54 fused shell and 19 different lot numbers for the M48 fused shell. In one clover leaf of shells, I found two shells with one powder lot number, the third shell having a different lot number.

The battalions divided the service battery into three ammunition sections and attached one to each firing battery. They functioned well and in no case was any battery out of ammunition.

CONCLUSION: Ammunition should not be furnished to a unit going into combat when that unit has not had sufficient training in its use. Care should be taken in the supplying of ammunition to see that sufficient ammunition of the same lot numbers is furnished for an operation.

(3) Antitank Weapons.

In addition to 37mm guns, this force was equipped with both the antitank rifle grenade and the antitank rocket with launcher. From investigation, I found that the grenade was not used but that the rocket was used on several occasions.

One rocket was fired against a Renault light tank; the tank was hit and it appeared that it was lifted about five feet in the air and destroyed. I find a great confidence exists among the personnel in the use of the rocket.

Unfortunately, no training in the use of the launcher and rocket was given to the members of the division prior to embarkation and no instructions had been received by the organizations on many of the ships of the convoy as to how to fire the rocket from the launcher. The commanding officers of units on most transports had the launcher fired while at sea and instructed as many men as possible in its use after figuring out to use it themselves.

The launcher is fragile and susceptible to bending. It is believed that some protective carrying case for it should be developed to protect it from injury and dirt.

No means for carrying the rockets was furnished. The bags used for carrying mortar ammunition are not suitable for use, as the rockets are too long for this bag.

I found that on at least one occasion the rocket was fired against a concrete house. I was told that the house had been blown up and that the personnel in the house immediately surrendered when the rocket hit. I personally investigated this report and found that the rocket had not "blown up" the house but had accomplished exactly what it was designed to do.

The rocket hit the side of the house and put about a three inch hole completely through 45 centimeters of solid concrete. I was unable to find the pellet inside the house, but inasmuch as it was about 75 feet long by 30 feet wide and open at one end (under construction), I doubt if much damage was done. In this case, a mortar would have been much more effective. Our personnel should be definitely instructed in the capabilities of such a weapon and not expect too much. From seeing the results of this rocket, I believe it would be effective against concrete pill boxes.

Inasmuch as the French had few tanks in this sector, not much use was made of antitank weapons.

CONCLUSION: No weapons should be furnished to a unit just prior to entering combat unless that unit has been trained in its use. Sufficient ammunition must be made available for training in order to acquaint all using personnel with the powers and limitations of a weapon.

Suitable protective carrying cases should be developed for the antitank rocket launcher.

A suitable carrying case for antitank rocket should be developed and

issued. The bags similar to that used for carrying motor ammunition are faulty in that when a man hits the ground for protection there is a tendency for the ammunition to fall out of the bag and, if progress must be made rapidly to the front, frequently the ammunition which has rolled upon the ground is not picked up.

Although the rocket launcher has considerable range, it is believed that it should not be fired except at short ranges, generally less than 100 yards.

(4) Antiaircraft Fire.

The BRUSHWOOD Task Force had with it two antiaircraft units, namely portions of the 443rd CA Bn, armed with automatic equipment consisting of a 37mm gun with two .50 caliber machine guns mounted on a half-track, and the 436th CA Bn armed with 40mm Bofors. The 443rd CA Bn was organized, prior to the embarkation of the Western Task Force, into 19½ platoons with four half-tracks in each platoon or a total of 78 guns. A platoon was attached to each landing team, to each regimental landing group and two platoons with the armored teams. In addition to the above attachments, the BRUSHWOOD force had an additional 1½ platoons of this battalion. The platoons landed with the respective landing team to which they were attached and accompanied their battalion throughout the operation. Because of the limited air activity of the opposing forces, the antiaircraft artillery fired a limited amount of ammunition.

Some difficulty was encountered with the feeding apparatus of the 37mm guns of the 443 CA Bn. This battalion left the United States lacking certain essential parts, such as, two pairs of sights, lock frames, and some smaller parts. These parts were lacking when the guns were issued to this unit. Repeated efforts were made to obtain the parts prior to embarkation with no result. Most of the officers connected with this antiaircraft artillery recommend that some armament be provided for that weapon. And, also, that that weapon be altered so that it may be depressed below the horizontal. In its use in this operation, it should have been able to protect itself by firing at ground targets, and had this weapon been attacked by tanks, they could have afforded little protection for themselves, especially in close-in operations.

The 436th CA with its 40mm Bofors guns did not get into action in sufficient time to fire on enemy planes.

(5) The Armored Force Team.

The Armored Force Team of the BRUSHWOOD Task Force was ordered ashore on Sunday, November 8 - 9 and were supposed to be landed at one beach. Vehicles and personnel were put ashore on the night of November 8 - 9. The various vehicles of the team were landed at three separate beaches and had to be collected into a unit during the night. At about 1300 on the 9th, the transport ARCTURUS, carrying a large per-

tion of the armored team, docked in the FEDALA harbor and unloaded at that point. During the night of November 9-10, the entire team with the exception of a maintenance platoon and an engineer platoon were ashore and placed in division reserve. The armored team lost only one half-track in unloading.

One platoon of this team was sent to a small village about 20 miles to the south of division headquarters to protect against the advance from that direction of opposing French forces on Tuesday, November 10. During the night of November 10 - 11, the entire armored team moved to an assembly area in preparation for the attack on November 11. For detailed information concerning this attack see inclosure No. 3.

In view of the limited use of the armored team, little opportunity for observing its use was afforded.

It is believed that, in future operations, high priority should be given to unloading of light vehicles of the armored team, early; as these vehicles can be especially useful in reconnaissance and control of the unloading and assembling of the remainder of the team.

The radios of the armored team were not waterproofed in many instances and practically all the radios on the ¼-tons were useless with the unit ashore. The radios are normally used for reconnaissance vehicles.

CONCLUSION: In planning for the debarkation of armored units, light vehicles should be unloaded early in order that they may be used in control of the unloading and assembling of the entire team.

All radios, including those of reconnaissance vehicles, should be waterproofed for amphibious operations.

(6) Communications.

For the setup of communications for this force see inclosure No. 4.

In this operation communication nets did not function initially satisfactorily. Many instances were noted where personnel came ashore in boats without all of their radio equipment for which they were responsible.

A considerable number of extra radios was furnished to the force. (See inclosure No. 5.) As may be noted by this tabulation, the number of radios was far in excess of the number of qualified operators who were available, and, in many cases, necessary repairs to the sets could not be made in order to keep them in operation. As has been previously indicated, communication between the shore party and ships was not satisfactory initially and not really established completely until D + 2.

Civilian lines were used to some extent, but effective use of them was hampered because many of these lines had been destroyed by the initial bombardments and later by artillery fire.

I found a general feeling that the SCR 284 is too heavy a set to be carried by personnel. The SCR 610 set performed satisfactorily and was liked.

CONCLUSION: Radio sets to be used in amphibious work should not be divided into separate loads but be an individual unit, or mounted on one vehicle whenever possible. In cases where sets are constructed in parts, frequently some essential element will be missing at the time when the set should be placed in operation.

A force should not be encumbered with a greater number of radio sets than it has operators to handle.

Waterproofing must be completed on all radio sets which it is anticipated will be carried ashore in small landing boats.

(7) Air Support.

Air support in this operation was confined to the use of naval planes from aircraft carriers. They did superior work and performed all missions requested with speed and accuracy. In some instances, I was told that battalions and regiments were not able to contact the aircraft carrier through the SCR 193 which was assigned for that purpose. The fact that early in the morning of November 11 Division Headquarters was able to contact naval bombardiers in dive bombers through this set and notified them that the attack of CASABLANCA had been called off about five minutes before the time the bombers were to attack is evidence that the set can be made to work and that the naval aviators were on the job.

No use was made of the artillery Piper Cub planes. Three of these planes accompanied the force and were carried on the aircraft carrier RANGER. When a suitable landing field was found for them during the afternoon of November 9th, the planes took off from the carrier for shore. While flying over the transports a destroyer opened fire upon them and they dispersed in various directions. One of the planes, unfortunately, came down low over our own troops and appeared just after a French plane passed, strafing our forces. Our ground troops immediately opened fire upon the Cub plane and seriously injured the pilot. The plane fell and Captain Alcorn, the pilot, was pulled out prior to the time that it burned. He was later evacuated to the RANGER with several small arms bullets in one of his legs. The othe two pilots were successful in evading the ground troops and landed at the assigned field.

After the armistice, the remaining two planes were assigned to the artillery stationed on the outskirts of CASABLANCA. I visited one of the pilots while he was working on his plane in the field and found that the plane had arrived without a mechanic's kit, and, although the mechanics had been assigned, they had no repair tools with them.

The planes which accompanied this force had been stationed at LANGLEY

FIELD and no information was available to the pilots or mechanics concerning the status of the motors or the number of hours which the planes had been flown since last repaired. The pilot told me that both planes were old, having been previously wrecked and repaired.

The pilots and mechanics seemed to think that the instruction they had received at FORT SILL had been adequate in all respects.

Prior to my departure from AFRICA, instructions had been issued to paint the under surface of all of the artillery planes yellow, and each individual organization was given a demonstration of the plane's use.

CONCLUSION: In order to prevent our own planes from receiving anti-aircraft fire from friendly troops, it is essential that complete information concerning them be disseminated to all personnel. Suitable distinctive markings should be placed upon the artillery plane now assigned to divisions.

Repair kits for use on artillery planes should be furnished to each plane mechanic assigned to the division.

If not already required, complete records concerning the life of the plane should accompany a plane when it is transferred from one place to another.

(8) Naval Gunfire Support.

The 3rd Division was prepared to utilize observed naval fire by means of nine shore fire control parties from personnel of the division artillery. Each battalion landing team had one shore fire control party and one naval ensign attached for the landing operation.

The parties consisted of the following personnel and major items of equipment:

1 Officer, Artillery	2 SCR 284
1 Naval Ensign	1 SCR 610
1 Staff Sergeant	2 CE-11
1 Sergeant, T/4	1 DR4 with 2 mi W 130
2 Corporals, T/5	1 Climbers, LC-6
2 Privates, 1cl.	2 Sound Power TBS.
	1 Remote Control System
	1 Panel Set - Ap 30-C
	1 Cart M3A4
	Waterproof bags for Radios
	Magnifying Glass
	Alidade

The general plan of naval gunfire did not include any prearranged fire on targets prior to or after H hour. Fire support groups were to fire only on shore batteries, if these batteries fired on ships. These groups were on call of the battalion commanders through the shore fire control parties.

The following is a summary of what occurred to the nine shore fire control parties. Seven of the nine landed on the correct beaches, the other two landed at wrong beaches considerably distant from the ones to which they were supposed to land. Two parties were able to communicate with their assigned destroyer. Other than the two parties mentioned above, one other party was able to communicate with a destroyer but not the one with which it was supposed to operate. All of the nine 284 radios functioned. Only one mission was called for by any of the nine parties and that was cancelled before actual fire was opened; consequently, no missions were fired by the navy on call by the division troops.

The fact that the fire support group ships were authorized to fire on shore batteries if those batteries fired on them, resulted in some of our troops being caught under our own navy shell fire. This happened in the town of FEDALA which had been entered by members of a battalion of the 7th Infantry prior to the actual opening fire by the navy on a shore battery near the town.

The navy uses a special grid system for use in supporting landing operations. It is essential that both the fire support group ships and the shore fire control parties have maps which are gridded exactly alike. In this operation this was accomplished by personal contact between a staff officer of the division artillery and a representative from the navy. All maps were checked prior to embarking to see that grids had been placed upon them in exactly the same manner.

Prior to embarking, the navy liaison officer with each shore fire control party was attached to the battalion with which it was going to work for a period of about three weeks. Inasmuch as three navy officers were physically unable to maintain the pace of movement across country in the operation, it is believed that a longer time should be given to them for training with the battalion with which they are going to operate.

On each fire support group ship a SCR 284 was placed for communication between the ship and the shore fire control party. The sets were manned by navy personnel. It is believed that the lack of communication between the ships and shore was caused, to a great extent, by the fact that the naval operators became involved in navy messages while the fire fight against the French was in progress, thereby, failing to guard the frequency for use of the party ashore. The staff officer of the 3rd Division Artillery in charge of the shore fire control party recommended to me that the equipment carried by these parties be reduced by eliminating the following items:

1 pair climbers
1 magnifying glass
1 remote control unit
1 SCR 284
1 panel set
1 DR4 with 2 miles wire (substitute 3 RL 39 units with same amount of wire)

CONCLUSION: In making plans for the naval gunfire support for an amphibious operation necessary restrictions must be imposed to prevent erratic firing from falling on friendly troops.

In order to maintain communications, a radio operator must continuously guard the frequency with which he is charged and not be shunted to another duty. It was recommended by the 3rd Division that the SCR 284 set, now placed aboard a naval vessel, be manned by an army operator who is a member of the shore fire control party.

(9) Engineers.

The organic engineers (10 Engr Bn) of the 3rd Division was divided into platoons and each platoon accompanied a battalion landing team. The opposing force did not attempt to blow up any of the bridges and what road blocks that were established were put up in such a manner that they were easily circumvented. The engineers as such had very little to do.

The 36th Engineers, which was designated as the Shore Party regiment, functioned under many difficult conditions and as indicated previously in this report had difficulty in establishing dumps after the supplies had been brought ashore. Difficulties which they encountered were undoubtedly greatly due to failure of communications and lack of proper supervision and organization.

(10) Motors.

Prior to the departure from the United States, the majority of the motors of this force were waterproofed under the supervision of the Ordnance department. The light tanks were fixed so that they would operate in from four to five feet of water. Upon landing at the beach, I saw many vehicles which landed in from two to three feet of water and where the footing was sufficient to gain traction, all were able to navigate under their own power. Waterproofing by the Ordnance was very satisfactory and materially assisted in getting vehicles ashore which otherwise would have been undoubtedly drowned out.

Because of the limited motor maintenance units which were carried with this force, garages in CASABLANCA and FEDALA were made available to the units for the repair and maintenance of vehicles as these facilities became available. After the town of FEDALA was under our control, many French vehicles were commandeered and, although the majority of these vehicles had to have some work done upon them in order to make them operate on gasoline, they were of material assistance in the transportation of supplies and personnel.

Difficulty was encountered in putting the vehicles in shape, inasmuch as they were formerly designed to run on gasoline, but had been employing alcohol for fuel for some time. Shortly after the cessation of hostilities, the 3rd Division caused an immediate check of their motor vehicles and necessary maintenance work was instituted.

No equipment to patch tires and tubes was included in the supplies taken by the motor maintenance units. Many tires were punctured and facilities were not available to make the necessary repairs.

CONCLUSION: For amphibious operations, vehicles should be completely waterproofed in order that they may navigate across the beaches should they be unloaded in an appreciable depth of water.

Limited amount of supplies to be used in patching tubes and tires should be included in all motor repair kits for an operation of this character.

(11) Medical.

(See Inclosure No. 2).

(12) Chaplain Activities.

(See Inclosure No. 2).

2. h. Recommendations for Future Training and Equipment.

(1) Too much emphasis cannot be placed on the necessity for having expert coxswains of landing craft. Personnel assigned to such duties must be thoroughly competent, trained, and capable of diagnosing changing situations and exercising initiative when the situation demands. Their training, in order to fit them for landing operations, should be accomplished under similar conditions to which they will be subjected in any planned operation. To train coxswains in calm water and expect them to operate efficiently in a moderate surf is not sound. Each coxswain, upon leaving a ship for a destination ashore, should be given complete directions and be acquainted with the situation which he may be expected to encounter upon reaching shore.

(2) Emphasize training in the United States on the identification of our own and allied planes which may be expected in the sector in which operations are to take place. I believe it is natural that all unidentified planes will be considered as enemy planes and, therefore, stress should be placed upon identification of our own rather than enemy craft.

(3) Impress on troops armed with small arms the futility of firing on enemy airplanes until such planes come within effective range of their weapons.

(4) Give to our troops as much combined training as possible and permit the infantry to conduct problems with artillery using live ammunition. Impress on the troops the importance of knowing the sound of shell and estimating the distance artillery fire is falling from them.

(5) Field equipment, both for officers and men, should be lightened, especially for amphibious work.

(6) In amphibious operations, all necessary replacements to bring a unit to its required strength should reach the unit at least two months prior to the time of embarkation. This applies to units which are to be attached to an amphibious force as well as to individual replacements, both officers and men for the force as a whole.

(7) Training in the use of the antitank grenade and rocket should be emphasized and the limitations of these weapons should be known to all using troops.

(8) Suitable covers for the rocket launcher should be designed and furnished with that weapon.

(9) Further tests should be made of the 37mm gun which is part of the automatic equipment furnished to the 443rd CA Bn, especially as to causes for jamming.

(10) Radio sets used in amphibious operations should be, if possible, in one unit rather than in separate units, such as the SCR 284 set.

(11) Suitable carrying cases, preferably of a suitcase type, should be designed for carrying antitank rockets as well as infantry mortar ammunition for use in amphibious work.

(12) Necessary steps should be taken to permit the automatic weapons mounted on the half-track of the type used by the 443rd CA Bn to be depressed to an angle below the horizontal, at least five degrees. This will permit these weapons to afford themselves protection against armored vehicles.

(13) Instructions regarding life on board ship should be furnished to all personnel as they are embarked.

(14) In amphibious operations where more units than purely fighting units are involved, additional service troops should be debarked early in order to handle supplies as the shore party, as normally consti-

tuted, cannot be expected to clear the beaches as well as maintain and operate elaborate distributing points.

(15) In all training, officers and men should be required to wear normal combat field equipment in order to accustom themselves to its weight and bulkiness.

(16) Hardening of personnel cannot be stressed too much.

(17) The K and C rations have proved themselves very successful. An opener key should be furnished with each can of the C ration. Now the meat and vegetable component has no key; the key for it being enclosed in the biscuit component can.

(18) A small stove, burning either gasoline or condensed fuel, should be furnished on the basis of one per motor vehicle, in order to heat the meat and vegetable component of the C ration.

(19) The glassein chain now worn by many officers and enlisted men with their identification tags should not be authorized. It is too fragile and very susceptible to burning. (Recommendation of 3rd Division Surgeon)

2. i. General Observations and Conclusion.

One of the secrets to success in amphibious operations is, in my opinion, complete control of fighting units. The initial fighting unit being a battalion landing team; we should have a ship which is capable of completely combat loading this team and the ship should be equipped with sufficient small boats to float the team to shore. Extra equipment and extraneous units should not be placed aboard this ship at the expense of impairing the fighting ability of the team. Should a ship be lost in transit, a unit would be lost and plans could be altered to operate with a reduced number of units.

Further study should be made of the quantity of supplies to be initially loaded with an amphibious force. To expect large ships to remain off shore, with limited protection, for a protracted period of time unloading supplies is wrong. The loss of four transports of this force while waiting off shore to unload supplies is evidence of the hazard involved.

Complete plans for the coordination of naval gunfire and land operations must be more carefully made.

One extremely bad feature of the voyage to the destination was the fact that although the troops went aboard in good physical condition, they lived aboard ship in cramped quarters, with poor ventilation and had practically no opportunity for exercise durnig the entire trip. This, un-

doubtedly, impaired them physically and, if and when we meet a more formidable foe, this condition may well determine the success of the operation.

In most amphibious operations, normally more than one beach will be used and, in many cases, units will not be landed on the beach which has been designated for it to land. I believe that at each beach a point should be designated and properly marked where information can be disseminated. At this point, an officer who is thoroughly familiar with the entire operation should be located. He can then either direct the unit or part of a unit which is out of position, to its proper place or may, if the situation demands, attach the unit temporarily to an adjacent organization. Although, in general, the shore party is now charged with such duty, I believe it impractical for the shore party to perform this task.

Considerable difficulty was encountered by the 3rd division in compiling complete and accurate lists of casualties. The main trouble seemed to be that the units did not have records of the men at the organization headquarters and had no personnel who were familiar with records. I believe each individual company or similar organization should have a qualified clerk available for the compilation of such records. (Clerks were left behind for this operation.)

The 3rd Division, under the command of Major General Jonathan W. Anderson, performed its mission with a minimum loss of life and deserves high praise for its action throughout this operation. At no time were units stampeded and practically all officers and men performed their duties efficiently under conditions which often left much to be desired. The planning of this operation by the commander and his staff was sound in all respects. Preliminary information and orders were adequate and I believe all necessary preparations to conduct the operation on a sound basis were made prior to the movement of the transports from the United States.

Many of the plans made, such as the boat employment plan, could not be put into operation because of circumstances beyond control of the officers of the division. Had the operations been conducted as originally planned, and had the units landed at the beaches designated, I believe that the results which were obtained could have been achieved much more quickly and with much less loss of life and equipment on both sides. At all times in the operation the commander and his staff were calm and I do not know of a single bad tactical decision that was made or would be changed were the operation to be repeated. In this connection, I think great credit in the success of this operation should be given to Major General Jonathan W. Anderson, Division Commander, Brigadier General William W. Eagles, Assistant Division Commander, Colonel Walter E. Lauer, Chief of Staff, and Lieutenant Colonel Ben Harrell, G-3, all of the 3rd Division. Most of the other members of the staff have done excellent work, but I do believe these four individuals have been outstanding in the performance of their duties in planning the operation.

The assembling of specialists of various arms and extraneous organizations at a port of embarkation in order to form a balanced combat force upon debarkation on a hostile shore should not be attempted if it is humanly possible to organize these units into a team prior to the time of embarkation. The keynote of success in combat is smooth team work. To assemble a group of specialists just prior to combat does not make for a good team. Units should be made to function together and not separately. Quickly organized headquarters, the staffs of which are not familiar with their own problems and of the purpose and limitations of the units of a force, do not tend for smooth and efficient operation.

The counter-intelligence service unit, which worked in the vicinity of this operation, deserves high praise for the work which it accomplished. The attack was made upon FEDALA with almost absolute surprise and I do not believe that anyone, except those so informed by our counter-intelligence personnel, had any information whatever of the probable landing of the American units. The German officials were caught flatfooted.

Apparently, this force was misinformed as to the proper approach which should be taken toward the native population. All personnel had been informed to treat the natives with care and consideration. The general impression gained was to give them food, cigarettes and other appeasing articles. I am sure that, initially, our force lost prestige among the French army and civilian personnel because of our attitude toward the Arab native population which flocked around us. It would have been much better had we taken the attitude toward these people that the French have taken toward them and treated them accordingly. Most of the natives encountered are of low class, approaching almost animals in their habits, filthy, dirty and practically all are beggars.

The completeness and accuracy of the G-2 information concerning the French military units and installations in the vicinity of CASABLANCA and FEDALA was almost perfect. Practically all advance data was correct and materially assisted in the success of the operation.

The prisoner of war interrogator groups and interpreters were well trained and were of great help to the commanders in making tactical decisions on the ground. The interrogator groups being assigned to lower units permitted the lower unit commanders to get early information concerning the enemy on his front and expedited the sending of that information to higher headquarters.

All commanders, whom I interviewed, were high in their praise of Officer Candidate School graduates.

The general feeling among the officers of the French army is one of cooperation and a desire to assist us in fighting the Germans. The Equipment of these forces is mediocre and meagre. In order to make them ready for combat, they must be furnished equipment and munitions.

I return with the definite feeling that the principles and doctrines of our army are sound and if followed will lead to success. No unit will be successful unless each individual officer and enlisted man is thoroughly disciplined and has complete confidence in himself and his leaders.

Harry McK. Roper

HARRY McK. ROPER
Colonel FA
A.G.F. Observer

6 Incls:

Incl No. 1 - FO #1, Western Task Force, Alternate Plans.

Incl No. 2 - Division Field Orders, Nos. 1, 2, 3, 4, 3rd Infantry Division.

Incl No. 3 - History of Battle.

Incl No. 4 - Radio Plan for the Operation.

Incl No. 5 - Tabulation of Radios with Force.

Incl No. 6 - G-2 Periodic Reports, 3rd Division, Covering Days of Combat.

Incl No. 7 - Pictures taken in French Morocco.

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REPORT OF ARMY GROUND FORCE OBSERVERS

Lt. Col. F. J. Reichmann

Major H. W. Dobbyn

NORTH-WEST AFRICA

December 24, 1942

to

January 15, 1943

SECTION I

LOADING OF TRANSPORTS

1. General.
2. Commercial Loading.
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APPENDIX NO. 6

Conference with Chief-of-Staff and Assistant G-4, 1st Infantry Division.
Written January 10, 1943.
Protection against aircraft.
Rations and feeding.
Equipment.
Amphibious observations.

APPENDIX NO. 7

Notes from Standing Operating Procedure, 1st Infantry Division, "Ship to Shore Operations."

SECTION I

LOADING OF TRANSPORTS

1. General. a. The loading of a ship for movement of troops and their equipment to a debarkation point can be accomplished in a successful manner only by careful planning, based on knowledge of the organization of the troops, the use and characteristics of their equipment, and the conditions under which the troops will debark and live until they no longer depend on the ship.

(1) The troop commander can obtain all of the information required, and he is responsible for the welfare of his troops and the condition of his troops and equipment after debarkation, so he must have control of the loading.

b. Information given to the troop commander regarding cubage and tonnage allowances before loading starts, must be correct and final. This applies to both personnel and equipment capacities.

2. Commercial loading for debarkation at a friendly port. a. Observations.

(1) It did not seem important to the personnel loading the ships to load TAT (To Accompany Troops) equipment on the same ship with the troops. If this equipment is on the same convoy they appear satisfied. (With the convoy scheduled to land at two ports separated by several hundred miles, some TAT equipment went to the wrong port.

(2) Much TAT equipment was loaded before second and third priority freight. Barrack bags, field ranges, and officers bed rolls were unloaded two to five days after arrival because of this situation.

(3) Officers who visualized the situation upon debarking were not permitted to make suggestions which would correct faulty loading. They were told to mind their own business and not interfere.

b. Results. (1) Observation after debarkation revealed that men, officers, supplies, and equipment suffered because of delay in unloading necessary TAT equipment. Rain, some sleet, and cold wet weather were encountered. Valuable equipment damaged, some supplies destroyed, officers had no tents or bed rolls, and necessary medical supplies were not available.

c. Recommendations. (1) That troop commanders send an advance party to plan loading of all ships in a similar manner to that employed for combat loading.

(2) That all TAT equipment be loaded so it is available within 48 hours after debarkation.

(3) That an urgent priority within the TAT equipment be established, and that this equipment be unloaded so as to be available immediately to the troops, to include: Kitchen equipment, complete, tarpaulins, canvas covers and administrative tentage, officers bed rolls, and selected medical supplies.

3. Combat Loading. a. Observations of Transport Quartermasters, and others during the ship-to-shore operations of November 8, 1942.

(1) The troop commander must have absolute control of loading. He must have time to plan, train his whole force, and load carefully and properly.

Last minute changes in composition of the personnel and equipment must not be made by higher authority, as readjustments are not possible after loading has started.

b. Results. (1) Many cases of the results of faulty loading are included in reports of observers of recent landing operations.

c. Recommendations. (1) That at least one experienced TQM, who acted as such during the recent landing operations, be attached to any task force which is being prepared to take part in such an operation.

(2) That higher authority specifically and clearly give the troop commander full authority to load his ships, and control the composition of the personnel, equipment, and freight to be carried.

(3) That at least two months training in combat loading, including all necessary information and equipment, be made available.

(4) That a complete and detailed Standing Operating Procedure be perfected during training. (See Appendix 7.)

4. Observations while on Transport. (See Appendix 1.) a. Observations made on ship which carried one artillery battalion, one medical battalion, and SOS personnel from New York to Casablanca.

b. Exchange Service.

(1) Very unsatisfactory.

(2) Opened after third day on ship.

(3) Open a few hours each day.

(4) Tax free cigarettes sold for $1.00 per carton to troops, 60¢ to ships crew. Other items in proportion. All men in the service know this is an excessive charge, and they feel that they are being imposed upon. Their justifiable indignation includes all higher echelons having the power and the obligation of preventing such treatment.

c. Fire and abandon ship drills were poorly planned and not effective.

(1) The three alarms "alert," "fire," and "abandon ship" were confusing.

(2) The signals were changed almost daily by verbal orders. They did not conform with posted written instructions.

(3) Locations of some units on deck changed several times. Some units did not know where to report the sixth day out.

(4) Life boats not equipped. Water casks not filled. This work started the fourth day, not completed upon arrival at Casablanca.

(5) Instruction to troops indefinite. Example: "Steel helmets will be worn while on deck." Next day: "Chin straps of steel helmets will be left unfastened." Two days later: "Chin straps of steel helmets may be fastened, but should be released before jumping overboard." Results of the above instructions: The questioning of several men regarding what they would do, in case the ship were torpedoed, brought forth the startling information that they were instructed to unfasten their chin straps and jump overboard.

d. Mess. (1) Well organized and well conducted.

(2) Two very good meals per day were adequate. We believe that it would have been very difficult to serve three meals on this ship, as the kitchen and dining room would have been in continuous use, allowing no time for police and reorganization.

e. Quarters. (1) Canvas and steel bunks arranged four to a tier, with passageways averaging 16 inches. Example: One average room containing 112 men measured 35 feet by 25 feet, with an 8 foot ceiling.

(2) Each man had his "A" barrack bag with him, and his field equipment. Large barrack bags obstruct passageways, and consume air space. This adds to the time necessary to clear lower decks, and to the discomfort of the quarters.

f. Debarking. (1) Time schedule for debarking did not provide for delays in passageways, so troops crowded into them for hours. Large barrack bags, some too heavy to be carried, added to the congestion.

g. Recommendations. (1) That ship exchanges be placed under regulations similar to those for exchanges at posts, camps, and stations.

(2) That ship alarm systems, and instructions regarding abandon ship be standardized.

(3) That the equipment carried by the soldier, including his "A" barrack bag, be defined. The contents should be reduced, so that he may use the bag as a pillow.

SECTION II

SUPPLIES AND EQUIPMENT

1. For use on transport. (See Appendix 1.) a. The men need two blankets, overcoat, arms, steel helmet, 3 pairs sox, two suits, wool underwear, salt water soap, and one months supply of razor blades, toilet articles, and towels. Before leaving the ship each man should obtain three rations, C or K, ammunition, and a "pocket" supply of toilet paper.

(1) One or two white handkerchiefs should be required. They may be used to mark guards.

b. Officers need their bed rolls after debarking.

c. Administrative equipment.

(1) Company or separate detachment:

Service records.
Duty Roster.
Sick book, plus forms 58.
Morning Report.
Paper, ink, ink eradicator.

(2) Battalion:

One typewriter, portable.
Supply of paper and carbon paper.
Army regulations needed for administration, to include those pertaining to courts martial and travel by water.
Field manuals required for planned instruction.

(3) Regiment:

Same as for the battalion.
Necessary extra forms.
One mimeograph machine (one on each ship is desirable).

(4) Caution: Don't leave your service records behind. Some units did; they have been waiting three months for them.

2. For use immediately after debarking. (See Appendix 2.) a. Care should be exercised to make sure that the following equipment can and will be unloaded while the troops are debarking: Kitchen equipment; all tarpaulins and administrative tentage; officers bed rolls; necessary medical supplies.

3. Additional notes on supply in Morocco. (1) Wood and lumber are extremely scarce. If you will need target frames, chairs, tables, latrine boxes, or other items made of wood, bring them along, or plan to make them from old boxes and crates.

(2) Cloth and special materials, as oilcloth, pliofilm, etc., cannot be purchased.

(3) White gas is not available, so bring all the extra spare parts you can for your stoves. Cleaning them three times daily at least doubles the spare parts needed. One division reports forty per cent of their field ranges not in operation after six weeks in the field.

(4) Eye glasses and artificial teeth cannot be obtained. See that every individual has two pair of issue glasses, and that missing teeth are replaced.

(5) Bath units belong at the front, and that is where they are. A few items of pipe and other fittings will help.

(6) Bring a generous supply of cleaning solvent, laundry soap, gun patches, and oil. Small items are difficult to get.

(7) Bring extra canvas to protect your equipment and supplies. A few extra shelter halves in charge of each company supply sergeant is indicated.

(8) Latrine seats, light, durable, and flyproof, will assist in health security.

(9) Do not depend on obtaining tentage or other equipment after you reach your destination. Bring what you need.

(10) Bring a one month supply of yeast for sanitary use.

(11) Guard your supplies and equipment at all times. Double your guard if Arab peddlers are numerous.

SECTION III

MORALE ACTIVITIES

1. On Transport. a. The most effective morale builder on a Transport is provided by careful planning for the safety of the journey, and positive, accurate, and confident leadership. The following are a few pertinent suggestions:

(1) Explain the protection provided for the convoy.

(2) Explain the armament of the ship, the lookouts, and the communication system.

(3) Carefully plan the abandon ship drill in detail. See that every individual knows his job.

(4) See that all boats and rafts are ready for use. Have crews designated for throwing life rafts overboard, actually untie them. See that they know where their orders are to come from, and by what means.

(5) Enforce the "no light" rule rigidly and effectively.

(6) Have abandon ship drills daily until everyone is convinced they are under competent leaders who know what they are doing.

b. Exchange Service. (1) Exchange service may be provided by the ship. In any case it should be possible to purchase articles for about the same price as at your destination. Tax free cigarettes are 6¢ per package in Europe and Africa.

(2) The exchange should have a stock of the popular cigarettes, candy bars, cookies, lighter fluid, nuts, cigars, tobacco, salt water soap, ink, pencils, playing cards, and stationery.

(3) The exchange should be open at least six hours every day.

(4) Any attempt to sell merchandise at a lower price to the crew than to the troops should be corrected at once. This practice causes the men to lose confidence in their officers.

c. Entertainment. (1) On board ship anything is entertainment that passes the time in a pleasant manner.

(1) 16mm movies can be shown in several spots on most ships. Even training films will be welcome.

(2) A daily news bulletin, printed or mimeographed, can be published if you bring the paper and appoint two or three reporters. Schools in the language of your destination will be popular. Mimeographed lessons and books should be provided before embarking. Blackboards and chalk may not be available unless you bring them aboard.

d. A few well prepared lectures on the customs, history, and geography of your destination should be provided.

e. Schools in the identification of aircraft can be conducted with profit.

f. Cards and small games should be provided by Special Service.

g. Organized singfests are popular evenings. Song books, or mimeographed songs are useful.

h. Barber service. (1) Plan to provide your own barbers, for haircuts only; at prices the men are accustomed to.

i. Personal cleanliness. (1) Provide for baths and washing of clothes. With all portholes closed at night the requirements of a bath every other day, and the prompt washing of soiled sox and underwear, becomes a morale as well as a sanitary measure. Daily shaving should be required.

2. Ashore in North Africa. a. A change in our habits is necessary; in most areas, even in the cities, blackout and early curfew curbs evening entertainment. Most units provide for some relaxation by giving all day passes to 5% of the men each day. A full training program, with a maximum of physical exertion, is necessary every day.

b. Radio music and news broadcasts are available.

c. Photography as a hobby is difficult because films are not available, and developing service is very unreliable.

d. All personnel should be encouraged to bring musical instruments.

e. Special Service and Exchange Officers have not been able to obtain supplies and equipment. Their problems must be met, at present, by what they bring with them.

SECTION IV

Observations on Training and Replacements

1. Training. a. The Sub-Task Force. All elements which are destined to operate as a unit in combat must be trained as a unit. This principle has been demonstrated in all landing operations in Africa through lessons learned from the numerous violations of it. Interrogator teams and signal detachments were not used to advantage because they did not understand their place in the team, and because troop commanders had little or no opportunity to learn their proper use. Shore parties and boat crews must learn to know the units they will serve and their equipment. Medical units to be attached to divisions must train with them.

b. Individual Training. Every officer and man should learn how to field strip a machine gun, and should fire a few rounds. It is essential that every man be confident that he can, in an emergency, fire the .50 calibre machine gun, using tracer ammunition. This includes artillery, signal, quartermaster, and headquarters personnel.

c. Every officer and man should learn how to care for his weapon under adverse conditions. He should practice cleaning his weapon of sand and dirt, keeping it in firing condition. A compilation of quick methods should be published. (e.g. flushing chamber of M-1 rifle with water to wash out sand.) Knowledge of the care of all weapons within the company should be given to all personnel. This training should include demonstrations. The demonstrations should be followed by tests on the firing range. It is suggested that the weapon be placed in water, water thrown on the weapon while firing, sand and mud thrown on the weapon during firing, and the soldier required to continue or resume firing. The objective is to convince the soldier that he can clear his weapon under any conditions. Then he will do so in combat.

(1) All personnel should be thoroughly instructed in the uses and the limitations of the weapons in their tactical units. Then we will not have men trying to engage in a fire fight using sub-machine guns against an enemy armed with rifles.

(2) All personnel should be confident that they can use the sub-machine gun effectively at close range. They should experience firing it at night, against sound targets, against dim flashes of light, and silhouettes.

(3) Marching and marksmanship should continue to receive priority in training.

d. All personnel should be given as much experience as possible under fire. They should learn to identify the direction of fire from the sound of projectiles passing overhead. The firing of any and all types of

weapons should be utilized to obtain this experience.

e. All personnel should be given as much experience as possible in living with a minimum of equipment and clothing. In this connection the use of two barrack bags seems to be unnecessary. Field exercises of less than one month duration should be completed with clothing and equipment carried in the pack. Soldiers should be required to wash their own clothing, including wool shirts and trousers, during this period.

f. All combat training should be done in field equipment that would be carried under the assumed conditions, including wearing of the steel helmet.

g. Any violation of security for the individual not a calculated risk necessary to accomplish the mission in the time required should receive attention in the critique. Habitual violators should receive punishment involving an appreciable loss of pay, and commanders not exercising this training obligation should be removed, as lives will be saved and combat efficiency increased by so doing.

h. Ship to shore training. (1) Drivers should receive special training in driving through surf and deep water.

(2) Similar maps and air photos should be provided for instruction and study (it being assumed that actual locations cannot be revealed).

(3) Interrogators and interpreters should be assigned to lower units at least one month before embarkation (several languages attached if necessary to preserve secrecy).

(4) Training should include landings on various types of beaches. "Scrambled" landings should be practiced.

(5) Training with special equipment and limited transportation must be intense.

(6) Similar map coordinate codes, and other codes, must be used in the training.

(7) Intensify training in communications and message writing. Prearranged message systems should be adopted and practiced.

(8) TQMs must be selected early and trained thoroughly.

(9) Include in all training schedules:

Preparation of plans to embark prepared for participation on combat.
Train troops to clear beaches promptly.
Train in debarkation by use of cargo nets and platforms.

(10) Conduct training in the removal of water obstacles, decontamination of gassed areas, assault operations against permanent beach defenses, and construction of hasty roads.

(11) Selected artillery officers to train as naval gunfire spotters.

(12) Troop schools to emphasize instruction in FM 31-5.

2. Replacements. a. The best replacements are usually obtained before going to the Staging Area.

b. Check basic training, and see that every replacement, including officers, have fired, and can care for, their weapons.

c. Secure replacements early as possible.

SECTION V

INTELLIGENCE

1. Counterintelligence. a. Censorship. (1) Plans for effective censorship must be based on the education of all personnel and quick and effective quarantine of violators. The isolation of violators for the protection of the command and the operation must consist of absolute denial of the use of all means of communication to the outside. These persons cannot be trusted to transact official business outside of the unit.

(2) The "cure" of those afflicted with censorship violation must include prompt disciplinary action, to include appreciable loss of pay.

b. The organization of the counter-subversive agencies must be continued, with verbal reports replacing any system that cannot be continued on account of changes of location. Linguists must be incorporated into all counterintelligence activities.

2. Interrogations and interpreters. a. The senior officer of interrogator teams should be attached to the G-2 Section.

b. Seek early attachment, to have at least thirty days training with units.

c. Interrogator teams should have transportation.

d. Do not expect interpreters to be attached. Develop your own.

3. Intelligence personnel should receive intensive training in camouflage technique and discipline. The marking of equipment, distribution of camouflage equipment, and the elimination of all reflecting surfaces are of special interest to all intelligence officers. A few of the difficult problems are:

a. Reflecting surfaces of windshields, head lamps, mess gear, food containers, and vehicle tops and hoods.

b. Camouflage nets for medical installations.

c. Camouflage discipline around command posts.

d. "The mistakes of maneuvers are being repeated on the battlefield." TM No. 4, Allied Force Headquarters, 28 December, 1942.

4. Special operations may require the organization of special units for intelligence missions. These units will require carefully selected personnel and special equipment. Their organization should be a part of the advance planning for the operation contemplated.

5. Requests for maps and aerial photographs should be made early.

6. Every opportunity should be developed to train with air units.

7. Plans for reinforcing the MP platoon for the handling of Prisoners of War should be made.

8. All personnel should receive instruction in the searching of prisoners for arms and documents.

SECTION VI

Miscellaneous Observations

1. Administration. a. Keep service records up to date, and keep them with the men. They belong in the company field desk, but if a platoon is detached, or on another ship, send the service records along.

b. When a unit, a combat team, a regiment, or a battalion, is detached, be sure that records, transportation, and personnel, are attached to it, so it can supply itself, administer itself, and function as well as if it were within support distance of the division.

c. Staffs should be prepared to divide into at least two functioning staffs on short notice.

d. Stop the automatic "bucking" of requests for reports, and administrative details to the next lower unit.

2. Miscellaneous suggestions received from various sources regarding landing operations. These are based on experience of actual landings in North Africa.

a. Battle casualty reports difficult to get in time to be of value. The administrative personnel must be impressed with the importance of prompt reports.

b. There is a need for a field bag, or some similar container, with a wide shoulder strap for carrying grenades.

c. G-2 should handle missions direct with Signal Radio Intelligence units.

d. Medical units should arrive at the beach early, and be equipped with haversacks to carry additional equipment. Battalion and regimental medical sets must be augmented by additional blankets, litters, and splints.

e. Need PW enclosure quickly on each beach.

f. Graves registration unit needed with each sub-task force.

g. Information of the enemy must be reported promptly, and distributed to lower units at frequent intervals.

h. Men making the assault should carry the absolute minimum of equipment.

i. Interrogator teams must have transportation.

j. MPs needed on beach early.

k. Ammunition should be packaged so not more than two men can handle.

l. Control of communications should be simple within echelons, and properly controlled.

m. Do not place a CP on a ship having a combat mission.

n. Maps: Try to get 1/50,000 maps, and town plans of towns included in your mission.

o. Plans for administration of captured territory should be made in advance.

(1) Trained administrators.
(2) Curfew.
(3) Price control.
(4) Rate of exchange, currency.
(5) Billets.
(6) Security.
(7) Operation of utilities.

n. Keep unit equipment with the personnel that handles it.
(1) Vehicle and its driver on same ship.
(2) Gun crews on same ship with gun.

F. J. Reichmann,
Lt. Col., G.S.C.

APPENDIX NO. 1

1. This report is based on our observations and experiences in boarding the ship, the period enroute to destination, and the debarkation. It assumes debarking at a friendly port.

2. Clothing and Equipment of the individual soldier.

a. Assumptions: That wool clothing only is to be issued; that barrack bag B is available 48 hours after landing; that space in quarters is very limited.

b. Plan One. Place "A" barrack bag inside (in the top) of "B" bag and store in the HOLD.

(1) To be carried and worn by the soldier:

Pack carrier, haversack, straps and pistol or rifle belt, complete as issued.
Mess equipment, canteen, as issued.
Arms as issued.
Shelter half, pole, pins, rope.
Two (2) blankets.
Shaving kit complete with one months supply of soap and blades.
Toilet kit complete with one months supply of soap and tooth cleanser.
Two (2) towels, hand or small bath.
One (1) bar good salt water soap.
Garrison cap (overseas cap).
One (1) suit wool underwear.
Two (2) additional suits underwear (type dependent on season).
Three pair socks.
Three handkerchiefs, at least one white.
Raincoat.
Overcoat (seasonal option).
Suit, working (one piece preferred).
Field Jacket.
One pair trousers, wool.
Two (2) shirts, wool.
One (1) pair shoes, service, a-1 condition.
One pair shoe laces, extra.
One pair goggles.
One pair gloves, leather.
One necktie.
One steel helmet, complete.
Compass, pocket or lensatic as issued.
Field glasses, as issued.
Two pair glasses, if needed, one for wear with gas mask.
One pair leggings.
One head net.
Gloves, mosquito, if issued.

Gas mask, complete with carrier and two covers, protective.
Protective ointment M1.
Cleaning and preserving materials and equipment.
(NOTE: One set per squad is sufficient. To include complete cleaning and preserving kit for arms as issued, including adequate supply of gun patches and oil. Also two bars GI laundry soap, dubbin, saddle soap, sponge, rope for clothes line, and castile or white soap for cleaning web equipment).

(2) "A" barrack bag. (To be placed in the top of the "B" bag.
Protective clothing, complete as issued.
(NOTE: This was issued at P of E but is quite heavy and carries a very strong odor. Recommend that if debarkation is at a friendly port that this be requisitioned in proper sizes and issued at debarkation port, having been transported boxed as organizational property).
Impregnite, shoe, M1.
One (1) blanket.
One (1) bedsack or mattress cover.
Gloves, knit, wool.
Extra underwear and sox, one (1) each.
One (1) pair trousers, wool.
Sandfly net, .032 mesh.
One (1) month's supply razor blades, shaving soap, tooth paste, hand soap, etc.
One (1) towel.
Dust respirator.
Individual cleaning and preserving equipment.

(3) "B" barrack bag.
Rest of wool uniforms, including uniform.
items given above not in season.
Galoshes (if issued).
Extra shoes.
Extra leggings (if any).
Coat, service.
One (1) month's supply of razor blades, shaving soap, tooth paste, hand soap, etc.
One (1) month's supply tobacco (if used)
Extra gloves (if any)
Extra fatigues (if any)
Other clothing or equipment as issued.

c. Plan Two. "A" barrack bag to be carried and placed in quarters with men on board ship.

(1) "A" barrack bag:
Same as in Paragraph 2 b (2) above except place the following items in "B" bag instead of in "A" bag.
One (1) blanket.
One (1) bedsack or mattress cover.
One (1) month's supply razor blades, hand soap, shaving soap, tooth cleanser, etc.
One (1) pair wool trousers.
Protective clothing, complete.
Individual cleaning and preserving equipment.

d. Remarks.

(1) We observed many "A" and "B" barrack bags filled to capacity. Some were so heavy the men had to drag them. This was a serious obstacle to embarking and debarking in regard to the "A" bag. Some soldiers carried well over one year's supply of razor blades, etc. Some carried grotesque supplies of cigarettes and candy.

(2) On our ship there was no space for the "A" bag, except on the bunks with the men. Therefore the "A" bag must be kept small if carried aboard. In one particular room that our enlisted men were quartered in there were 112 men in four tier bunks, the size of the room being 35 feet by 25 feet with an 8 foot ceiling.

(3) One "K" ration and 2/3 "C" ration were issued to troops prior to debarking.

(4) Ammunition issued to troops prior to debarking:
Each pistol, 20 rounds.
Each sub-machine gun, 60 rounds.
Each rifle, 100 rounds.

(5) Canteens should be filled prior to debarking.

3. Officers clothing and equipment.

a. To be worn and carried aboard ship:
All field equipment, less bed roll. (Canteen full).
Steel helmet.
One pair leggings.
Coat, service.
Field Jacket.
Raincoat (or trench coat).
Two (2) cotton shirts.
Two (2) wool shirts.
Two (2) wool trousers. (O.D. shade).
One (1) wool trousers, light shade (optional).
Cap, service (overseas).
Three suits underwear (at least one wool).
Six pair socks.
One pair shoes, service (in A-1 condition).
One pair shoes, dress (optional).
Two (2) covers, protective, (in gas mask carrier).
One gas mask, complete.
Two (2) pair pajamas.
One flashlight with extra bulbs and batteries.
One month's supply toilet articles.
One bar good salt water soap.
Extra shoe laces.
Extra pair glasses, (if needed), gas mask type.
Sun glasses (optional).
Impregnated clothing (recommend it be shipped as company property if issued).

Two towels (small bath or hand). (Wash cloths for taking sponge baths aboard ship are desirable. Bath towels (one each week) were furnished aboard our ship).
Ammunition and emergency rations must be carried after issue aboard ship. (See par 2, d (5).
Brief case (when desirable).

b. Bed Roll.

Complete with shelter tent, pins, poles, rope; wash basin, extra towels, blankets, sand fly net .032 mesh. (NOTE: Under present conditions of loading, officers may expect to wait from three to six days before receiving their bed rolls upon debarking. This is a fault that should be corrected at the embarkation point. Since supervision of loading by the commander of troops is not permitted, this must be corrected by higher authority).

c. Foot Locker.

Extra wool clothing, sox, handkerchiefs, underwear, etc.
One extra set insignias (or in bed roll)
One extra padlock. (We found many locks on foot lockers had been broken in transit).
(NOTE: Footlockers may be available in from three to six days after debarking under present conditions)
It is recommended that the foot locker not be taken to Africa.

(NOTE: The foot locker should be small, and water-proofed with lacquer or varnish. A distinctive stripe for each battalion or similar unit will aid in identification. All stenciling, except name and serial number should be with gasoline solvent paint to permit removal.)

4. Morale Activities on Board Ship.

a. Very limited.

b. Exchange service.

(1) Not open first three days and after opening, the hours were comparatively short and units were put on a schedule basis whereby they could make purchases every third day only. The exchange for officers was kept open only two (2) hours per day from 1200 to 1400. We estimate that there were about 600 officers, warrant officers, and nurses aboard ship.

(2) Standard brand cigarettes were sold at $1.00 a carton. These cigarettes were tax free. The profit made was obvious to all soldiers. This is not a morale builder.

(3) Candy which cost 55¢ to 65¢ per box sold for $1.20 per box.

(4) Should stock playing cards and good salt water soap.

(5) A better stock of cookies should be available. The two meals per day were excellent, but a small addition should be available at the exchange.

(6) We believe the exchange should be open every day on board ship.

c. Schools.

(1) Plans should be made to have schools in French and Arabic on each ship. In this connection, many officers bought dictionaries of Egyption or Syrian Arabic in New York. They are worthless here. (Private Wineberg of the G-2 section is familiar with Tunisian and Morrocan Arabic).

(2) Schools on identification of aircraft could be conducted with profit.

(3) A few well chosen lectures on the customs, history, and geography of the country to be visited should be prepared.

(4) Ship newspaper.
A daily news bulletin was published to the officers, after the fifth day out. One issue of a ship newspaper was published. A linotype machine and printing press were available but used very little. One linotype operator and two reporters on each ship could print a small paper every other day. This paper could contain the radio news, pertinent shipboard news, and a French and Arabic lesson section. A good mimeographed paper would be better than nothing.

d. Entertainment.

(1) The men staged two shows which were well received. Only a few musical instruments were available. These ship instruments were not used as much as they could have been. More planning could have made the trip shorter and prevent friction within the units.

(2) No movies were shown. Even 16mm training films would have been well received for their diversion value.

(3) Cards and small games were available, but not in the quantity needed.

(4) Organized singfests were very popular. Typed sheets containing the words of popular songs would be very helpful at these singfests.

5. Sanitation.

a. Water.

(1) After the third day the amount of fresh water available was about one canteen per man per day, exclusive of mess requirements. Warm salt water was available in some of the officer's quarters, but in a small percentage of them only. At least one salt water hot bath every third day should be required of all personnel.

(2) The handling of food and washing of mess gear was very satisfactory.

(3) All personnel must debark with full canteens.

b. General police of the ship was difficult

(1) Daily inspection by the senior medical officer assisted by several field officers, with a daily report to the ship troop commander is recommended. This report should fix the responsibility for any defects noted.

c. Barber service.
   (1) Three chairs were available. Barbers completed about twelve haircuts per hour at 50 cents each. To do this they use clippers almost exclusively. (The use of electric clippers was a surprise as the radio waves generated are said to be more intense than those produced by an electric razor).
   (2) It is recommended that unit barbers be prepared to cut hair on board ship.

6. **Administrative Equipment** needed aboard ship.
   a. Company, battery, or separate detachment.
      (1) Carry aboard ship
          Service records
          Duty roster
          Sick book plus forms 58
          Morning report
          Paper, ink, ink eradicator
      (2) Ship as company property
          One set each of army regulations, field manuals, special orders, and current records (not to exceed one year).
          Typewriter, field desk, etc. as issued.
      (3) Surplus records may be stored in Quartermaster Depot at staging area.
   b. Battalion.
      (1) Carry aboard ship
          One typewriter, portable.
          Supply of paper and carbon paper
          Army regulations needed for administration, to include those pertaining to courts martial and travel by water.
          Field manuals required for planned instruction aboard ship.
      (2) Ship as headquarters property.
          Army regulations, field manuals, special orders, and current records not to exceed one year.
          Field desk, etc. as issued.
      (3) Store in Quartermaster Depot at staging area balance of records not needed.
   c. Regiment.
      (1) Same as Battalion.
      (2) Necessary extra forms
      (3) One mimeograph machine. (one on each ship is desirable).
      (4) Extra supply of paper and ink.

NOTE: On our ship there were no offices available for companies, batteries or similar units and the administrative work was carried out for the most part in officer's staterooms. Officers were quartered on the basis of six to a stateroom that would normally accomodate two, so the space for administration is very limited.

7. Remarks.

a. A sack lunch was issued upon debarking.

b. Ship regulations regarding the alert signal, fire alarm, air raid alarm, and the abandon ship alarm were confusing. Orders posted did not conform to verbal instructions. Abandon ship stations were changed en route. It is recommended that commanders reach a definite understanding with the authorities in charge as early as possible, and that the men be instructed regarding what to expect and what to do in any emergency. On this particular ship the instructions and the practice drills were of little value.

APPENDIX NO. 2

1. Information gained by inspection of the 78th FA Battalion, 2nd Armored Division, and by conference with Major Maynard, and Major Brady of that organization. All statements are based on actual observation and questioning several officers and non-commissioned officers for verification.

a. Effect of order of unloading of kitchens.
   (1) Troops debarked with one sack lunch, one K ration, and 2/3 C ration about 4:00 P.M. 24 December
   (2) Field ranges received in bivouac area late night of 26-27 December. Some field ranges not complete and were first used for the noon meal 27 December. (French rolling kitchen borrowed to supplement cooking facilities).
   (3) Had five field ranges in use within the battalion on the fifth day.
   (4) Using motorcycle gasoline. No white gas available.
   (5) No kitchen fly available until fifth day after debarking.
   (6) Observation of unloading revealed that much third priority equipment was delivered to troops before TAT equipment was received. This appeared to be caused by faulty loading.
   (7) Rations delivered when needed and were ample.

b. Other TAT equipment.
   (1) Officers bed rolls.
   Some received night 25-26 December. Balance received late 26 December.
   (2) Medical tentage and supplies received late night of 27-28 December.
   (3) "B" barrack bags received late night of 27-28 December.

c. Packing and crating.
   (1) Some packing too light though it seemed to be according to specifications.
      (a) Knots in boards caused much breakage.
      (b) Some packages too heavy or too long (10-5 gallon gasoline cans in one row).
      (c) Rough handling caused some strong boxes to break open. Factory packed replacement parts were lost from boxes.
   (2) The best boxes and crates were reinforced with steel bands. They held together even though handled roughly. The use of diagonal bracing on crates helped.

d. Care in the field.

   (1) Heavy dew and light rains almost nightly, with broken boxes in open fields, made care of equipment difficult. Canvas covers arriving on the fifth day caused considerable exposure to some equipment.

e. **Recommendations.**

(1) That an urgent priority within the TAT equipment be established, to include the following:

(a) Kitchen equipment, complete. (Pressure pumps, spare parts, etc. should be packed in the same crates with the field ranges).

(b) Tarpaulins, canvas covers, and administrative tentage.

(c) Officers bed rolls.

(d) Necessary medical supplies.

(2) That something be done to make sure that TAT URGENT equipment can be unloaded while troops are debarking.

APPENDIX NO. 3

1. The information reported herein is based on observation of various units of the 9th Infantry Division, the 3rd Infantry Division, and the 2nd Armored Division.

2. Training facilities.

a. Near Rabat.

(1) Adequate for one division plus other units now in the vicinity. Good artillery range. Other ranges adequate but lack equipment. Need target frames, targets, and target cloth.

(2) Difficulty in securing lumber in this area is very acute.

b. Near Port Lyautey.

(1) Adequate for one division less one infantry regiment. Ranges not equipped. Fair artillery range but narrow. Other areas may be made available later. Other deficiencies are same as at Rabat.

c. Training Manuals.

(1) Concensus of opinion is that each officer should bring one copy of the field manuals peculiar to his branch and assignment. That each company have 15 copies of each of the same manuals, to be used for instructional purposes; that a complete set of field manuals, army regulations, and circulars be carried by battalion, regimental, and higher headquarters.

(2) That new manuals critical to this theatre should be stocked at some central point in Nort Africa to be distributed upon requisition.

(3) That the present policy of distributing a few copies to each division is satisfactory, providing paragraph (2) above is complied with.

3. The 10th Engineer battalion, 3rd Division was visited. A conference with Major R. L. Earnheart, executive, gave us the following opinions:

a. Engineer letter companies carry some tools that are amply supplied to the battalion headquarters company.

(1) He believes that all ferriers tools except forge, anvil, and sledges should be eliminated from TBA of Combat Engineer Battalions. He has 4 different types of drill shanks that he believes could be modified to two types.

b. Wheelbarrows and rakes should be eliminated from the engineer supplementary set. These are not used often, and should be available at an engineer dump.

c. The demolition set needs extra wire for preparing charges. This set should be carefully checked by personnel familiar with its use. (In recent operations, new sets were found to contain dynamite caps instead of caps for TNT).

d. Two or three water tank trucks of a 750 gallon capacity would be useful in a combat engineer battalion, particularly in places where the water situation is similar to the conditions at Rabat. They would save a great deal of gas and effort now being used by divisions in resupplying water in 5 gallon cans.

e. The 404th Engineer Battalion is now drilling and operating wells from 100 to 150 feet deep. This unit is limited by its supply of casings and pumps.

4. Conference and inspection of modifications of equipment with Lt. Col. Exton, 78th Field Artillery Battalion, near Rabat.

a. Removed piece from elevating arc of T54 mount (105mm on half track) to secure full depression. Col. Exton considers this a very good weapon. He says it is sufficiently stable at all ranges with charge 7.

b. The following are modifications considered useful:

Extra gas cans mounted on rear of sand skirt, carriage motor M-7.

.50 Cal MG tripod and pioneer tools mounted on front of carriage motor M-7

Extra ammunition, 105mm, on carriage motor M1. By moving the fire extinguishers to the rear, the carrying capacity is increased to 99 rounds.

5. Conference and inspection, 67th Armored Regiment, with Colonel I. D. White.

a. General observations by Col. White:

(1) Units need more laundry soap and cleaning solvent.

(2) Units need white gas to keep kitchens (field ranges) going.

(3) Believes some visible evidence of completion of purchase of a bond would stimulate sales. It should be possible to purchase bonds at Army Post Offices. Bond salesmen, with a small entertainment program, would be worth while.

(4) Valuable equipment is deteriorating on account of a lack of tentage.

(5) There should be an automatic issue of vehicular paint. Gas solvent paint should be included.

(6) The Grenade, offensive, is a liability. It is not as effective as the fragmentation granade, is easily spoiled by stripping threads, and is not sufficiently safe to carry in vehicles.

(7) For use against aircraft, the .50 Cal. ammunition should all be armor piercing, with every fifth round a tracer.

(8) Medical detachments should have trailers to carry their equipment.

(9) Armored units should have one water trailer per kitchen truck.

(10) Library of 16mm films for recreation is needed. (Many units have the necessary projection equipment).

(11) Men complained that outgoing mail is not being delivered as promptly as incoming mail. This is a poor morale factor.

b. The following are useful items observed:

(1) Improvised armor on 1/4 ton reconnaissance car (front view). Made from discarded armor plate from scout car by the Reconnaissance Troop, 2nd Armored Division.

(2) Battery charger mounted on half-track; used to keep batteries charged for operating radios.

(3) "Gold Medal Water Heater" being used to heat water for washing mess kits. This small heater is said to be extremely satisfactory.

6. Conference with Captain Jack E. Cowling, Company C, 15th Engineer Battalion. The following are opinions of this officer, whose company took part in landing operations:

a. The combat engineer battalions need radios. The T/O provides operators, but the TBA does not provide radio sets. (Now corrected).

(NOTE: This officer borrowed and had access to radios during the November landing operations. He observed that the 284 radios corrode badly. Being a chemical engineer, whose civilian occupations is research on packaging problems, he suggests that heat sealing in "pliofilm" may solve this problem for future landing operations).

b. Equipment that Captain Cowling feels is excess in the letter company and should be made available at engineer dumps:

(1) Mine detectors.

(2) Flame throwers.

(3) Commercial shores.

c. That 2½ ton cargo trucks are more advantageous than 1½ ton dump trucks - that the advantages greatly exceed the disadvantages.

d. That the hooks on the double blocks for one inch rope are not strong enough. That he has bent them back in using 3/4 inch rope. He states that he had considerable trouble with these before leaving the states.

7. The following are opinions of Colonel Thomas H. Monroe and Lt. Col. Harry B. Sherman of the 15th Infantry.

a. OFFICERS FROM OFFICER CANDIDATE SCHOOL. That training is essentially satisfactory but the new officers have not been sufficiently impressed that they must conduct themselves as officers at all times and in all places.

b. Loading of ships at Port of Embarkation: More control by tactical unit commander. This unit, in spite of precautions by the commander, had ships loaded with vehicles separate from the drivers thereof.
Service Records, etc. to be on the same ship with the men. This unit still has not received certain service records and are now three months behind with the necessary entries. Have been able to get only part payments for the men and have not been able to increase their allotments.

c. Canvas insufficient to protect equipment.

d. PLANE identification: The rule in the 15th Infantry is "Never shoot at planes that do not shoot at you". Intensive instruction in the identification of our own planes is valuable, but within infantry regiments we should not attempt intensive instruction in the identification of enemy planes. The ultimate objective in this training is to have all gun crews become proficient in the identification of all types of our own aircraft.

e. Latrines - Believes that collapsible latrine seats should be brought with units. Lumber is very scarce in the North African Theatre. These seats should be made light and durable, but be fly proof. (Colonel White, 67th Armored Regiment, concurs in this also).

f. Crude oil and yeast for sanitary purposes is not available, and used motor oil is not sufficient for this purpose. Good bivouac areas are limited, and when units are bivouaced for a long period the continuous digging of new straddle trenches presents a problem. This is particularly acute when units follow each other into the same bivouac areas.

g. Short on cleaning and preserving equipment. Particularly gun patches and oil.

h. Command Post tents leak along the seam joint between the roof and the wall (A). The extended canvas (B) rolls up during rain and makes a regular water trough which causes a considerable amount of water to run down the inside wall.

1. Conference with the 34th Infantry Division contacted Colonel Hendrickson, Chief of Staff, Lt. Col. Wendt, G-4 (who was also G-4 of Allied Force Amphibious operations in the vicinity of Algier and who has also done much work in recent months with the British), General Ryder, Commanding General, G-2, Division Surgeon, and the Division Signal Officer.

a. Disadvantages of combined forces of different countries:

(1) Staff procedure entirely different which creates misunderstandings and a lack of coordination. Constant liaison both ways needed and this slows up the procedure.

(2) Entirely different ideas on combat operations. The combat loading for amphibious operations entirely different between the British and ourselves. Control must be absolute with the Combat Troop commander on loading and unloading of equipment and personnel as well as original plans which, of course, must generally fit the operations.

(3) Equipment not alike. Impractical to have American troops attached to the British for supply, evacuation, or transportation. Their methods of supply are different. Examples of actual happenings are:

(a) An American force was attached to the British 1st Army for a certain operation, and the British were to supply this force and evacuate the wounded. When the British ambulances reported to the clearing station, it was found that our litters were too short and couldn't be carried in their ambulances.

(b) An American force of 4 officers and 216 enlisted men was operating under certain conditions with the British. They were used for an extended period - considerably greater than originally planned. Seven weeks after initial landing, the one officer and 100 enlisted men left had not yet had a needed resupply of clothing.

(4) The above disadvantages are in spite of the most willing collaboration from both sides.

(5) Solution: Col. Wendt says that our own supply must be thru all echelons of our own army. This particularly true of classes I, II, and IV.

b. Loading of Ships Not enough control allowed combat commanders. Interference by ship crew and high ranking officers at port trying to change loading plans is disastrous. Absolute control by the sub-task force commander is necessary after the plan has been approved by all concerned. An example of an actual happening caused by not having this control is as follows:

(1) After an amphibious landing was made at a certain town, it was learned that there was imminent danger of a tank counterattack. Artillery was not available at the moment. Anti-tank weapons had been ordered loaded on the ship to be available on a moment's notice. When they were hurriedly called for, it was found that passenger cars for

staff work had to be unloaded first before they could get to the anti-tank weapons.

c. **Protection for rear Installations** There is very little protection at present as set up in present T/Os. Improvising must rob combat forces of needed men and weapons. GHQ and Corps units are sometimes available, but more often the protection must be the responsibility of the Division itself. A suggested answer according to Lt. Col. Wendt is:
(1) Organic AA unit in each infantry division.
(2) Organic defense platoon in the Quartermaster Company of the Infantry Division, armed with .30 cal and .50 cal machine guns. To be sufficient in size to protect at least two installations simultaneously.

d. **Traffic Control**. This subject has become a sacred one with the British after their experiences on the European continent and in North Africa. They have made an exhaustive study of this problem and their general plan is as follows:
(1) Organization of Traffic Control Companies of approximately 180 men each equipped with light motorcycles, radios, etc. They control all roads over which two or more units may be moving. In combat zones they control with radio all important intersections so that columns may be diverted without loss of time if the situation requires it. This unit is thoroughly trained in this work as the British feel it is of vital importance.
(2) The Military Police platoon in an Infantry Division is not of sufficient size to use for traffic control as it has a bigger job than it can handle in controlling P of W.
(3) Units (combat teams, battalions, etc.) mark their own roads when no one else is using them and arrange their own control thru organic transportation and radios.
(4) Low speed light motorcycles that can be "hand" pushed over difficult places are used. These light motorcycles of the British are reported to have a longer life than our heavier, faster one, and the mortality rate on drivers is lessened.
(5) They use many signs. These cannot be depended on too much because of saboteurs. The engineer battalion has special equipment for making signs..

e. **Field Ranges** The 34th Division is using British 75 octane gas which is not leaded, so they are not badly off on fuel. However definite recommendations are:
(1) Need WHITE gas. If leaded gas is used, the range parts wear out too fast with constant cleaning.
(2) Need more and more field range parts. They cannot be kept operating at present.
(3) Need greater number of smaller stoves (similar to those furnished self-propelled and armored vehicles). These stoves will heat C rations for small patrols that cannot be reached by the company kitchens.

f. **Water Supply.**
(1) Every group of approximately 200 men should have a 250 gallon self chlorinating trailer water tank. The 34th Division had the use of British water trailers for some time and found them definitely advantageous. They miss them greatly now. They also state that the 5 gallon water cans should remain in the Table of Basic Allowance as they also have a definite purpose in the present plan of water re-supply (using one truck for a battalion in hauling water cans to and from the water point) and for sending out water with small patrols that will be out for 24 hours or more.
(2) Advantageous in a Division to have two or three 750 gallon short wheel base tanks as higher headquarters cannot always be depended on to bring water into an area far enough advanced for a division to re-supply itself. This would not be necessary normally. (See Col. Adams, MBS engineer ideas on this).

g. Plan of Supply.
(1) The British use unit distribution, bringing supplies right up to the unit areas. Apparently they have a greater number of vehicles and service units in higher echelons. Their plan is to relieve the combat units of as much housekeeping as possible.

h. Vehicular Replacement.
(1) At present, units wait from two to ten days for replacement vehicles. Some vehicles are not replaced for many weeks. Possible solution for this is:
(a) Have every Division Ordnance company or separate unit Ordnance platoon have 10 percent stock of replacement vehicles. This percentage would vary with the salvage evacuation organizations at hand and with the time loss in the Ordnance company getting replacements from higher echelons.
(2) Loss in vehicles has been great as enemy is attacking single vehicles at every opportunity.

i. Combat Team.
(1) Generally accepted as a satisfactory fighting unit, but when operating away from its Division, it has not the personnel or organizational equipment to handle necessary housekeeping. (See Major Curtis, 1st Infantry Division ideas on this).

j. Training.
(1) All units operating together of any branch or force should train together so as to become thoroughly familiar with each other's methods, idioscyncrasies, personnel, etc.

k. Services of Supply Personnel. Systematic steps should be taken to keep Services of Supply sections stocked with good, alert officers (rotate if necessary) to keep Services of Supply fully

advised of NEEDS OF TROOPS. (Statement by Lt. Col. Wendt).

l. Mines. (From Col. Hendrickson). British grenade 75 with igniter 75 proving to be an excellent weapon.

m. Signal. (Observations of the 34th Infantry Division Signal Officer).

(1) On cold days they have had several men knocked out by monoxide fumes while operating radios in a C and R car with curtains on.

(2) Air blocks (Radio interference by enemy).

(a) Radio 193 works thru air blocks if handled by good operators.

(b) AM radio sets will generally go thru air blocks.

(c) Frequency modulated sets will not work thru air blocks.

(3) Wire communication.

(a) Used very little so far.

(b) W 130 wire needs more tensile strength. It is allright for outposts and within battalion areas. It is not satisfactory for higher echelons.

(4) Radio Sets.

(a) Too many different kinds. Can't keep parts for them. Tubes, batteries are a big problem.

(b) Supply of BA 37 and BA 38 batteries critical.

n. Medical (Observations of the 34th Infantry Division Surgeon).

(1) Evacuation and first aid for the Division Command Post.

(a) Nothing in Table of Organizations at present, and this group will total from 400 to 700 men at times. His solution is an unsatisfactory one at present to him, but is as follows:

The Division Venereal officer is used as the Medical officer at the Division Command Post aid station.

The six enlisted men in the Division Surgeon's office are trained in first aid.

Take one or two ambulances from the clearing company where they can best be spared.

(b) Changing collecting stations in operation: (Example: One combat team in line with its collecting station in operation to be relieved by another combat team).

Don't evacuate the equipment of the collecting company in operation. Move the fresh personnel in from the collecting company that is to take over, making a switch of the equipment between companies. Moving the equipment of one company in and the other out would create too much confusion, loss of time, and loss of equipment thru vulnerability to the enemy. Also would destroy counterintelligence efforts.

Leave enough old personnel so that one of each four litter bearers is an experienced man and knows the terrain. Leave enough ambulance drivers to acquaint the new drivers with all locations.

o. Other Observations.

(1) Slit trenches (from Col. Hendrickson and Lt. Col. Wendt). Slit trenches have proven no good against tanks. The German tanks run one track along or in them, crushing the men in them. Many American and British soldiers have perished in this manner. The best solution found so far is individual round, vertical fox holes, deep enough so men have two feet of earth over their heads when sitting down.

(2) Cutting Table of Organizations. When informed of the possible cuts in Table of Organizations of Medical units and in artillery battalions, the following protests were heard:

(a) All units to function properly should train together. Medical units trained as General Headquarters or Corps units to be attached to Divisions in combat would not work as well because of personnel being unfamiliar with each other and not knowing each other's methods of operation.

(b) Battalion headquarters batteries and S and A batteries being combined would make a battery so widely scattered as to be difficult to handle. Almost invariably it would have to operate two kitchens and administration would have to be divided. At this writing the S and A battery and the battalion headquarters battery of the 175 Field Artillery are operating 80 miles apart in the combat zone. (Strong opinions along this line were received from many others, including Major General Dawley, VI Corps).

APPENDIX NO. 5

1. Observations of the Chemical Supply Section, MBS at Oran. (Opinions of Major Herbert F. Groen, Major Stephen K. Ford, and Captain Arnold B. Hubbard).

a. Chemical.

(1) No information being received on new developments, new TBAs or any changes in equipment. No manuals or training circulars being received.

(2) Manifests do not have accurate enough information in many cases. It is sometimes necessary to give priorities in certain ships moving to other ports and this is impossible without definite information on what is in the ships.

Example: Manifest NYO 207 Ship No. NY626 received at Oran on December 14, 1942. Under the item Quad 9 R CWS SAS 3 was the following item: "21 packages chemical warfare supplies".

(a) Suggestion: That the chemical officer at Pembark, N.Y. air mail shipping tickets or tallyouts on all shipments leaving the Port of Embarkation.

(b) This information is essential if proper supply levels are to be maintained in the various depots.

(3) Supply depots. Supplies somewhat congested because of the shortage of transportation to properly distribute supplies to various scattered depots.

(4) British smoke pots have caused six fires, resulting in the loss of over 10,000 smoke pots. (Caused by the inability to get transportation to properly scatter the mines into small piles over a large area). The reason for them setting afire is the smoke pots were damaged in transit, and when exposed to moisture "spontaneous combustion" resulted. When one pot is set off, the remainder of the pile cannot be saved. The crates are not strong enough. There are two pots to a crate and 20% of the crates are damaged in some manner by the time the handling at the debarkation point is completed.

(5) Very short in many types of supplies, particularly the 1½ quart apparatus decontaminating and the agent, non-corrosive. Many units arrived at this theatre without their TBA complete.

2. Engineer section MBS-Oran.

a. Conference with Major Stanley on water supply.

(1) Now utilizing shallow wells (25 feet to 30 feet deep) in this area that are already existent. These wells are under French control and are used for irrigation

and normal uses. It is necessary to ration the water at times, but at present is sufficient. If water becomes scarce late in the season, and there is no other supply available from deep wells or streams, it may be necessary to restrict the water for irrigation purposes. At the present time the engineers are drilling one deep well and starting another. This is still in the experimental stage. The first well is down 300 feet at present and is still in clay. The geological formation in this area is not simple. Water in creeks and rivers is very heavy with silt.

(2) Testing water.

(a) Our present Medical units are unable to test water for chlorination. They should be taught to do so and furnished the necessary equipment.

(b) Major Stanley had called for testing units from the depot. Three were located and sent to him, one of which he showed to us. It was without any batteries or parts necessary for its operation, and so far as could be determined, no parts or batteries were available.

b. Conference with Colonel Donald B. Adams.

(1) Bomb disposal units. (Questions in Colonel Adams mind).

(a) In the ordnance unit are they prepared to dispose of bombs in areas forward of Corps boundaries?

(b) Should the engineers be trained to dispose of bombs in initial actions before ordnance units arrive? And to dispose of bombs in forward areas?

(c) What part does the bomb disposal unit of an air force take in operations in a given area? What areas? What connection with ordnance similar units?

(2) Fire fighting.

(a) What units are being trained for this? Are they organized with experienced fire fighters from civilian life?

(NOTE: Colonel Adams sent a prospective T/O for a fire fighting unit through Eastern Theater of Operations during the summer of 1942, but has heard nothing as to whether these units are being organized or not).

(3) Utilities Platoons. In all areas the engineer units are being called on for small jobs such as plumbing, carpenter work, electrical work, etc. Whenever this work has to be done, men are used that causes the slowing down of major operations, and the most efficient help is not available for specific small jobs.

Colonel Adams recommends:

(a) That headquarters utility platoons be formed to handle these miscellaneous duties.

(b) That they be made up of men experienced in civilian life. A platoon to have two or three of each type mechanic.

(c) That the number for a headquarters utility platoon be -
Approximately 40 to 50 men for an Allied Force Headquarters
" 30 to 40 men for an Army Headquarters.
" 20 to 25 men for a Corps Headquarters.
" 30 to 40 men for a Base Headquarters.

(4) Water supply.

(a) 250 gallon water trailers. Believes one in each company or battery would be advantageous. Should be self chlorinating but the self chlorinating unit should be a simple one allowing much hard usage. Equipped with a spout that won't be exposed so as to be knocked off.

(b) 750 gallon water tanks. Does not believe these advantageous in units under GHQ or Corps. Too hard to ship and with the collapsible water tanks now being used, he feels that water supply engineer battalions can convey water to dry division water points.
(Have several contrary opinions to this in previous reports. See Paragraph 2 F (2) Memo 9 January 10, 1943 and Memo No. 8, January 3, 1943, Paragraph 3 D).

(c) Need 250 gallon water trailers in medical units, particularly when operating away from water tanks that are supplied by the engineer water supply battalion. Basis of needs to medical units is approximately 5 gallon per day per patient and one gallon per day for operating personnel.

(d) 5 gallon water cans should be retained in addition to water trailers, as they have their normal usage. (See opinion by Colonel Hendrickson and Lt. Col. Wendt Paragraph 2 F (1) above).

(5) Service troops. Need more so as to release highly trained special troops from doing service work. (At the present time a well trained engineer camouflage battalion is being used to handle supplies in the vicinity of Oran).

(6) Motorcycles. Need them lighter and slower. Need more and more of them. Top speed of 60 MPH is a great plenty. Present 1/4 ton trucks cannot pass columns on these roads and maintain column control. (This same opinion received from many others).

APPENDIX NO. 6

1. Conference with Colonel Cota, Chief of Staff, 1st Infantry Division and Major Curtis, Assistant G-4, 1st Infantry Division. These officers had taken part in the amphibious operations and had studied the amphibious problem for a considerable time both in America and in the British Islands.

a. Protection against aircraft.

(1) C Ration cans and mess kits giving away positions. During the last few days a German pilot was captured and volunteered the information that the reason for the Axis planes coming out and strafing troops at noon was because our ration cans and mess kits glinted in the sun so much that they could be seen for from 5 to 10 miles away and our positions were continually given away.

(2) No vehicle is sacred to enemy planes. Planes come down in the sun so they cannot be readily seen. EVERY AA GUNNER AND OBSERVER SHOULD HAVE DARK SUN GLASSES ON ACCOUNT OF THIS. Troops in column disperse to fields when attacked. Many Axis planes are now equipped with a cannon in the nose (usually one approximating a 20mm) and machine guns so set as to spray the ditches along the sides of a road. Troops should therefore disperse to points 50 to 75 yards away from roads. The plane then disappears and times itself so as to return and strafe the vehicle (s) about the time the men are getting back into it (them).

(3) Need trained .50 caliber machine gun operators for the machine guns mounted in trucks. Should not try to use chauffers or assistant chauffers.

(4) All machine guns mounted on trucks (2½ ton cargo) should be .50 caliber for AA. Anything smaller is not of much value against armored planes. Every third truck should have a .50 caliber mounted on it and the other trucks should have a .30 caliber for use against ground troops.

(5) Open column for vehicles during daylight, 150 to 200 yards.

(6) Slit trenches, L shaped, good for AA work. However NO good against tanks.

b. Rations and feeding.

(1) After heating a C ration, part of the food is invariably lost when opening the can, on account of the strip being about ½ inch from the top of the can.

(2) C ration cans and cans in K ration give away positions.

(3) Mess kits give away positions.

(4) Need small stoves for patrol units away from normal areas.

(5) When unit is in a stable situation, infantry companies are sometimes satisfactorily bringing ranges right up into the combat area and "digging" them in. Kitchen truck brings up the rations during the night but the cooking is done at meal time and the meals fed right at the kitchens or carried a comparatively short distance to the men. Not necessary to keep kitchens back.

(6) Artillery batteries have kitchens right with them in their position areas.

c. Equipment.

(1) Each man to have with him the blankets and what he needs. Do not ever depend on A or B bags coming up at a certain time. They just do not get there.

(2) Guard equipment well both forward and rear. The chances are against ever getting equipment that has been lost.

(3) Wrecker trucks. Superstructure too weak in infantry regiments. Need the 4 ton wreckers very badly to get the job done. They do not slow up infantry columns in this country and the advantages far offset the disadvantages.

(4) Stove substitute. Use sand in cans soaked in gasoline to heat C Rations. Works very well with small holes punched in the sides of the can to allow air through.

(5) Commercial shores needed badly in combat areas. (See Par. 6 B (3) of Memorandum 8, January 3, 1943 for contrary opinion. Conditions also different in the WTF area). (Note: Problematical as to whether the present TBA commercial shores should all be carried in an engineer combat battalion. Might lighten their load of some of them but in the present combat area they should be readily accessible in forward engineer dump).

(6) Flame throwers should be taken away from combat engineer battalions. Too cumbersome for what they are worth.

(7) Mine detectors. No good against present cardboard mine being used by the Axis at present.

(8) Vehicles. Emphasis on ¼ ton and 2½ ton cargo. Fix ¼ ton for radio. Trailers, both sizes, are priceless. C and R 3/4 tons useless except where needed as radio cars. Trailers can be hauled by ¼ tons wherever necessary.

(9) Canvas. Needed badly in bivouac areas but even the CP tents are not used much in forward infantry combat zones. Infantry CPs are put in farmhouses, caves, etc. CP tents invaluable in artillery and in bivouac areas for administration.

(10) Canteens. Units of the 1st Infantry Division that participated in the amphibious operations are still carrying two canteens and find this very advantageous.

(11) Do not believe in the 250 gallon trailers per company. Have not tried this out in combat but considered it seriously in maneuvers in the States and decided against them. Feel that the present plan of using water cans and having one truck from each battalion haul them is satisfactory. (This contrary to many opinions on this subject).

d. General observations.

(1) Slit trenches or oblong fox holes NO GOOD against tanks. Tanks crush men in them. Use round, verticle fox holes deep enough so the men's heads are two feet below the surface of the ground.

(2) Be prepared to have two staff echelons of each section at all times and operate forward and rear sections. Rear echelon may be as far back as the Army depots or debarkation ports.

e. Amphibious operations.

(1) Drivers on same ships with vehicles.

(2) Operators on same ships with weapons.
(Never plan on personnel and their weapons or vehicles coming together after arriving at a beach from different ships).

(3) NO CHANGES IN LOADING PLANS. They are fatal.

(a) First have plan approved by ship officers and then under no circumstances allow changes except slight ones that might be necessary to obtain the correct ballast and list for the ship.

(b) TQM (Transport QM) to maintain ABSOLUTE control of loading and unloading for his sub-task force commander.

Must be A-1 officer. Can be taken from a staff or service element that is not needed in immediate combat during initial waves.

Has full authority thru his commanding general and his sub-task force commander, and the ship crew can make no changes he does not personally authorize.

Complete schedule of equipment in each hold and exactly where in the hold.

Complete unloading schedule before embarkation.

(c) Control by commanding general in convoy (or sub-task force commander as the case may be).

First wave on time schedule.

Succeeding waves on boat load schedule.

Boats not transferred from one ship to another but continue handling their own ship.

Schedules previously made up and copies to all higher echelons before sailing. Any time during an operation a radio report will tell exactly the situation on unloading, for instance mark -

Personnel - P
Vehicles - V
Supplies - S

Looking down the schedule of what has been done, a radio report stating "P6S9V12" would give a person with a schedule and chart the exact personnel, supplies, and vehicles that have been unloaded and sent to the beach. DO NOT try to work on a time schedule basis after the first wave.

Information worked out ahead even to the cranes and nets to each hold, hatch, and tank lighter.

TQM in charge. Good capable officer at each hatch and good NCO in each hold. Each is used in loading the ship so knows exactly where everything is and as it is called for by schedule there will be no delays.

(4) Three plans if possible. Alternate plans may be necessary, dependent on required operations.

(5) Landing table for each ship for each landing team to be distributed to each ship before embarkation. Time element vital. The key personnel that makes up these tables should be trained before they arrive at the Port of Embarkation. Time will be too short as it is.

(6) General observations.

(a) Use 60mm and 81mm primarily for artillery. Pack 75mm howitzers are vital if you can get them to supplement the mortars until the 105s are in a position to furnish fires.

(b) 105mm soon as possible as all artillery is desperately needed. Do not try to pull 105s with weapon carriers. Will merely bog down the beach. Use regular prime movers and do not bring the 105s until the prime movers can be brought with them.

(c) Use plenty of trailers loaded with supplies. They can be pulled by ¼ ton trucks or bull dozers.

(d) All vehicles brought to shore should have organic loads.

(e) Leave men's rolls on ship. Make up squad bundles with them and send to shore in lighters as room can be found for them. Do not let men have more of a combat pack then they can swim and fight with. Should have two canteens each and small amount of ration for emergency. Probably have to feed themselves for 24 hours but heat of battle makes eating comparatively non-essential during this time. By the time the men have an opportunity to stop and eat, the ration supplies can be unloaded on the beach for them.

NOTES FROM SOP
1st INFANTRY DIVISION
SHIP TO SHORE OPERATION

1. Plans to provide for the reduction of strength and equipment, if necessary by limits imposed by assigned ships, will be in accord with the following priorities:

Bands.
Basics.
Chauffeurs for vehicles left at home station.
Motorcyclists.
Reduction on rifle squads to 8 men.

a. In no case will plans provide for deletion of tactical units, such as platoons, unless ordered by this headquarters.

2. Organization:

a. Major Tactical Groupings:

Regimental Combat Team (CT--).
Infantry Regiment (Three battalion landing teams).
One F.A. Battalion.
Co. A, -- Engr. Battalion.
Co. A, -- Med. Battalion.
Ord. Det. (One officer, six enlisted men).
Det. -- Signal Company.
Army Troops -- Regimental Shore Party.
Division Artillery, less dets.
Division Headquarters:
Hq. and MP Co., less dets.
Signal Co., less dets.
Engineer Bn., less dets. (Less three Companies)
Reconnaissance Troop.
Division Shore Party Headquarters.
Service Troops:
Medical Bn., less three Companies.
QM Company.
Ord. Company (LM) less dets.

3. Battalion Landing Team (Combat loaded):

Battalion Infantry.
Battalion Medical Section.
One Battery F.A.
One Bn. component of regimental shore party.
One Naval Gunfire Support Team, consisting of:
One Army officer.
Two Naval officers.
Four privates.

When space is available units will be added in the following priority:

One Engineer Platoon.
One Bn. Sec. Trans. Platoon Service Co.
One Battery AA Artillery.

4. Number and kinds of transports:

a. Preferred embarkation:

Each Reg. CT on a transport division consisting of:
4 AP's. (However, the transportation will be governed by transportation available).
Excess space will be allotted to a proportion of division troops.

b. As soon as a definite allotment of transportation is received, this headquarters will make a definite allotment of space to CT commanders, reserving such space on each ship as will be required by divisional troops.

c. Battalion landing teams will be assigned to one transport.

d. Regimental headquarters will be assigned to the flagship of the transport division. (Navy).

e. Space will be reserved for the division commander and staff on the flagship of the Naval officer commanding the transports assigned to the division.

f. The division staff will be divided into two groups, each capable of functioning as a staff, and each embarked on a separate ship.

g. For planning purposes, transport divisions may be assumed to consist of four transports of the following capacities:

Ship No.	Officers	Enlisted men	Vehicles
1 (Flagship)	70	1300	50
2	70	1050	50
3	70	1050	50
4	70	1050	50
	280	4450	200

5. Scheme of Maneuver:

a. Each RCT to be capable of landing and operating initially without the support of other elements of the division.

b. Transport area located approximately 10,000 yards from landing beach.

c. Line of departure approximately 5,000 yards from landing beach.

d. Formation for landing:

Column of battalions on beach approximately 750 yards in length.

e. Landing to be made during hours of darkness against a hastily organized defense.

f. After the landing and clearing of the beach, regimental combat teams will operate in a manner normal for land fighting.

g. Tanks may be landed after beach has been cleared.

6. Motor Vehicle Allowances:

(This table is for planning only. It is subject to modification)

	On AP's							On AK's	
Unit	¼ Ton	3/4 T CR	3/4 T WC	2½ Ton	¼ T Tlr	1 T Tlr	Special	2½ Ton	1 T Tlr	Special
CT										
Inf (3 Bns.)	63	1	5	3	25	3	12 37-mm	12	12	
Reg Hq Co	11	1		1	3			1	1	
AT Co	7		12	1		1	12 37-mm	2	1	
Cannon Co	8			3			6 SP 75-mm 2 SP 105-mm	1	1	
Serv Co	5			4				8		
Med Det	4			3				1		
F.A. (3 Fir Bt)	9	3		15	3		4 75-mm PH 8 105-mm	9	3	
Hq Btry	8	1		1	1		6 37-mm	5	4	
Serv Btry	2	1		5		4	1 Amb	11	10	
Engr Co	1		1				3 Half-Tr 3 37-mm 1 Bulldozer 1 Air Comp	1	1	
Med Coll Co	1		1				1 250 gal Tlr 3 Amb	1	1	9 Amb
Ord Det	1		1							
Sig Det	1	2	2	1						

Unit	On AP's: ¼ Ton	3/4 T CR	3/4 T WC	2½ Ton	¼T Tlr	1 T Tlr	Special	On AK's: 2½ Ton	1 T Tlr	Special
Div Arty										
Hq & Hq Bty	4	1		4				3	1	1 Amb
Medium FA Bn	19	5		21		4	6 37-mm 12 105-mm	10	10	1 Amb
Div Tps										
Div Hq	9	1					4 37-mm 2 mtcl			
Div Hq & MP Co	6	1	4	2		1		14	4	
Sig Co (-)	1			2		1	2-K51 2-K52	16		
Engr Bn(3Co)	2			6			1 Amb	9	4	
Recn Tr	33		2	1		10	10 Sct Crs 9 mtcl 1-250 gal tlr	1	1	
Serv Tps										
Med Bn(3 Co)	4	1		5			4-250 gal tlrs			
QM Co (Bn on plan)	6	1		34		4		18		
Ord Co(-)	2		1	3						1-10 ton wrkr
Atchd Tps										
Bn Amph Engr (3 ea)	6			10						
Btry CA(AA) (6 ea)	4	2	2	20		4	16 40-mm AA	2		

Drivers will be on ship with their vehicles.

In case all vehicles of the division and attached troops are ordered taken, the vehicles in excess of those shown will be loaded on AK's.

7. *Shore Party.* (*See Shore Party SOP*):

a. Composition (each regimental CT):

Army: Approximately one battalion amphibian engineers.

Atchd: Det. Signal troops.

Navy: Approximately 10 officers and 50 enlisted men each AP.

b. Embarkation and landing:

With reg. CT in accordance with orders of CT Commander.

The Shore Party must have a high priority for landing.

c. Command—Initially under CT Commander. *Revert to division or force on order.*

8. Transport Companies:

a. Strength—One officer and 60 enlisted men (attached engr) for each AP.

b. Embarkation and landing—Embark on each AP under direction of CT Commander on completion of unloading of AP. Land under direction of Shore Party Commander and revert to his control.

c. Duties:

Furnish labor and supervision for loading, and labor for unloading Army supplies and equipment. Until such time as landed, these Companies perform their duties under the command and direction of the Transport Quartermaster of the ship on which embarked. (Shore Party and Transport Company personnel are normally furnished from an Amphibious Engineer Regiment attached to the division).

C[redacted]

9. Transport Quartermaster (TQM):

a. TQM's will be designated by appropriate commanders and maintained on the basis of 5 per infantry regiment, 2 per separate battalion and one per separate company or similar organization.

b. In addition, each CT Commander will designate a TQM, for the CT who will be responsible for coordinating and supervising the work of the TQM's within their CT's.

c. TQM's will be organized and trained under direction of G-4.

d. TQM's will be made available to assist organization commanders in the preparation of tonnage and loading tables. For other duties see SOP for TQM's.

e. The position of TQM is one of great responsibility. Therefore, care will be exercised to appoint competent officers whose temporary absence on these duties will not handicap the combat functioning of their unit during the landing operation.

f. TQM's will control the landing craft assigned to unload their ship to insure that no craft are idle at anytime during the unloading.

g. When craft not assigned to his ship report there by mistake, the TQM is responsible for directing them to their proper location without delay.

h. TQM's will notify G-4 as soon as one or more craft assigned to unload his ship can no longer be used to capacity and become surplus, stating craft identification number. (G-4 will reassign where needed).

10. Advance Parties:

a. Mission--Precede units to port of embarkation designated and insure proper loading of unit supplies, equipment, motor transportation, and personnel.

b. Composition and nature of duties--Division Advance Party:

(1) The Division Commander or his representative--One chauffeur with car.
Nature of Duty--As directed by the Port Commander, report in person to the proper port of embarkation to accomplish the following:
(a) Furnish information regarding freight shipments made by the division.
(b) Furnish information regarding priorities of loading transports.
(c) Sign for supplies and equipment received at port for the division.
(d) Report to the Port Commander, all shortages of equipment not covered by shipments, as determined from reports received by Port Commander.
(e) Report to Port Commander, all equipment and supplies not received by sailing date.

(2) Representative of Adjutant General's Section--One clerk (stenographer), two messengers.
Nature of Duty--Establish forward division CP. Set up and coordinate message center. Handle such personnel questions as may arise.

(3) Representative of G-2 Section--One clerk.
Nature of Duty--Take charge of such maps and G-2 communications as arrive at the port. Supervise such secrecy precautions as may be necessary.

(4) Representative of G-3 Section--One clerk (stenographer), one chauffeur with car.
Nature of Duty--General supervision and coordination of loading personnel at the port. (Complete conference with Navy).

(5) Representative of G-4 Section--General supervision and coordination of loading of supplies and equipment at the port.
Nature of Duty--General supervision and coordination of loading of supplies and equipment at the port.

(6) Representatives of Division Quartermaster, Chemical Warfare, Ordnance, Medical, and Signal Units.
Nature of Duties--Assist G-4 representative in his duties.

(7) Detachment from division--Headquarters and MP Company, 2 officers and 12 enlisted men.
Nature of Duties--Insure secrecy by guarding pay telephones and exits. Make required arrangements for police protection for motor convoys. Assist in troop control as directed by G-3 representative. Carry out security measures as directed by G-2 representative.

(8) Infantry Regiment:
(a) Regimental Executive--One clerk (stenographer)
Nature of Duties--Act for and make decisions for the Regimental (CT) Commander. Command the several advance parties of the CT. Insure that instructions from higher authorities are carried out. Supervise and coordinate loading of ships assigned to his CT.
(b) Representative of Regimental S-4 Section--One officer.
Nature of Duties--Assist Regimental Executive. (Note: The Regimental Executive or his assistant must be in touch with the forward echelon of division headquarters at all times).

(9) Each Transport:
(a) Commander of troops, or his representative--One officer.
Nature of his duties--Commands the advance party of his ship and supervises and coordinates loading of his transport.
(b) Transport Quartermaster (TQM)--One officer and two non-commissioned officers.
Nature of Duties--Attached to staff of the commander of troops and is his direct representative in all matters relating to loading, unloading, billeting, and contacts with the transport personnel.
(c) Billeting Officer--One officer and one clerk (steno).
Nature of Duties--Assist TQM, paying particular attention to the billeting and loading of personnel.
(d) Advance Detail--Not to exceed 40 men per battalion. Not to exceed 4 men and two NCO's per company and a proportionate number of representatives for each smaller unit, with a minimum of two for any one unit.
Nature of Duties--Assist in arranging billeting details aboard ship. Act as guides. Assist in loading when called.
(e) Extra Drivers--One per vehicle to be loaded when required. (To be in charge of an officer(s); are drivers in excess of those in advance detail).

11. Additional pre-embarkation instructions:
a. The senior officer is responsible for the care and discipline of his men, and will insure that proper steps are put into affect to preserve secrecy within his command.
b. Transport companies should arrive at the port prior to the time loading commences. They should be billeted on ships, assist in loading, and become thoroughly familiar with the location of all supplies and equipment loaded.

12. Ships Details:
a. The Commanding Officer of troops on each ship will be called to furnish details for guard, police, and mess.
b. The Commanding Officer of troops may be called to furnish gun crews.

13. Supply and equipment, in addition to T/BA:

PAGE 6 MISSING IN THE ORIGINAL.

(2) Remaining units--5 units of fire.

d. Gasoline:

(1) Vehicles will carry full tanks.

(2) Vehicles will carry filled 5 gal containers on the following basis:

2½-ton or over	10 each
Special and maintenance	10 each
3/4-ton trucks	4 each
¼-ton trucks	2 each

(3) 5 days supply (8 gal per vehicle per day) will be combat loaded on ship with vehicles, and set ashore by TQM as directed by G-4.

(4) Balance of gasoline allotted will be loaded as part of reserve supplies.

15. Baggage and Freight:

a. Baggage:

(1) Officers are authorized the following baggage:

1 bed roll, not over 50 lbs. In stateroom.

1 piece hand baggage or clothing roll. Not over 40 lbs. In stateroom.

1 trunk locker. Per General Officer only.

b. Freight:

(1) All organization T/BA equipment not loaded in vehicles as their combat load will be sent to the Port of Embarkation as freight.

(2) Upon departure of freight cars from home station, a list of freight car numbers, and the organizations to which assigned will be furnished the G-4 representative at the Port of Embarkation by the Division Quartermaster.

(a) The G-4 representative will break this list down for the TQM's.

16. Marking of boxes and crates:

a. All boxes, crates, and pieces of equipment will be marked with paint with the unit insignia, company or similar unit designation, company box number, and line number in P & T tables, as follows:

⊖ - F - 10 - ⑥

(1) Line number in P & T table to be on yellow desk for pieces to which access is required enroute, and on white disk for pieces to which access is not required. (Note priority)

b. No other markings will appear on boxes or equipment.

c. In compliance with War Department Directive to maintain secrecy, care must be taken to mark property in such a manner as to permit ready identification without revealing the organization.

d. Equipment will be kept marked as prescribed.

17. Personnel and tonnage tables: (P & T tables)

a. Will be compiled by each company or similar unit, and will be kept up to date for immediate use.

18. Motor Vehicles:

a. Service:

(1) Prior to departure from home station.

(a) Tanks.--Operated over 40 hours, 100 hour check. Operated less than 40 hours, 25 hour check.

(b) All others.--Operated over 2400 miles, 6000 mile service. Operated less than 2400 miles, 1000 mile service.

b. Gas and oil:

(1) Prior to departure from home station.

(a) Full gas tanks and 5 gallon cans. (See par. 14 d)

(b) One quart oil on each vehicle. (Not to be used prior to embarkation)

(2) Prior to loading on ship, each vehicle will have its gas tanks full, plus full five gallon cans, and one quart oil.

c. Loads:

(1) Vehicles will carry nothing, except their combat loads.

(2) The 5 gallon cans will be securely lashed to the vehicle before it is loaded aboard ship.

d. Markings:

(1) Tactical markings will not be removed.

(2) Upon arrival at the port of embarkation vehicles will be serviced, waterproofed, and a tag furnished by the Division QM attached to each steering wheel. One side of the tag reads: "Caution, this vehicle filled with gasoline".

(3) Prior to turning vehicles over to the TC's at the port, the serial commander will tag each vehicle on one corner of the windshield, with its unloading priority. These tags will be issued by the Division QM.

e. Keys: The key to each vehicle will be securely fastened to the dash board.

f. Safety Precautions: The following safety precautions will be enforced by the Serial Commander when vehicles are loaded aboard ships.

(1) Fuel tanks to be full. (A half full fuel tank will splash, with more loss of gas than a full one).

(2) A detailed inspection will be made of fuel tanks and fuel systems to insure against leaks.

(3) See that tank caps do not permit leakage.

(4) See that a small space is available to allow for expansion of gasoline.

(5) Take such other precautions as are necessary to prevent spillage of gasoline due to motion of the ship.

(6) Keep spaces occupied by vehicles or gasoline under constant surveillance with a guard in rubber, soled shoes and using spark proof electric hand lanterns.

(7) Prohibit all smoking within a wide danger area around stowed vehicles.

(8) Do not fuel or defuel any vehicle below deck.

(9) Do not use the starter or in any way attempt to start any vehicle below deck.

(10) Ground frames of all vehicles during passage.

(11) Tag all vehicles as provided in par. 17 d (2).

g. Serials for loading: All vehicles assigned to one ship will be formed as a serial at the home station under command of an officer detailed by the Commander of Troops of that ship.

(1) This Serial Commander will be responsible for these vehicles as follows:

(a) During re-gassing.
(b) Movement to port.
(c) Loading aboard ship.
(d) Movement to Shore.
(e) Repooling.
(f) Reloading, if necessary.
(g) Marking and processing at the port, as outlined in par. 17 d.
(h) Submit to T/C of his ship a list of vehicles by type, United States registration number, unit, tactical use, and drivers name.

18. Subordinate Plans:

a. CT Commanders will bring all embarkation plans up to date.

(1) Special attention will be given to P & T tables.

b. Each battalion landing team commander will prepare embarkation plans for his landing team based on the following:

(1) This memorandum.
(2) Instructions issued by his Combat Team Commander.
(3) Availability of landing boats as given in information for the particular operation.

c. CT commanders must reserve space on each ship for:

(1) Transport Company.
(2) Component of shore party.
(3) Drivers for all vehicles on ship.

d. In making landing plans, space must be set up in landing boats for the Naval Component of the Shore Party.

e. Unloading Plans:-- Will be prepared by each TM in conjunction with Landing Tables prepared by the S-3 of the landing team concerned.

(1) The Unloading Plan and Landing Table will be made up into unloading serials based on:

(a) LCA loads for personnel and supplies.
(b) LCM loads for vehicles.
(c) These serials will be lettered
P for personnel
V for vehicles
S for supplies and equipment. They will be numbered serially by these classes.

(2) Copies of the Unloading Plan and the Landing Table for each ship will be submitted to G-4 before sailing.

19. Liaison:

a. Conference of Army, Navy, and Marine Commanders on each ship.

(1) Must be held immediately upon completion of preliminary duties associated with putting to sea.

(2) The purpose of this conference is two-fold:

(a) To physically acquaint the individuals.
(b) To settle beyond question of misunderstanding certain considerations in connection with the complete operations.

(3) Attendance will normally be:

Army: CO of troops.
CO of landing teams.
CO of each landing wave.
TQM.
Army Gun Ln O.
Operating staffs of above officers.

Navy: Ships Captain.
CO of Boat Group.
Naval officer who calls empty boats alongside.
All loading wave boat division commanders.
Naval Gunfire Ln Officers.
Operating staffs of above officers.

Marines: Marine officers in command of liaison positions corresponding to either army or navy personnel listed above.

(4) Important points to be definitely settled:

Exact location of the landing beach
H hour.--How it will be announced, synchronization of time.
Control of fire of landing boats enroute to beach.
Naval gunfire support.
Signals and communications.
Method of marking beaches.

[redacted]

20. Training:

a. The following special training for amphibious operations will be included in training schedules:

(1) Preparation of plans to embark or entrain, on orders, prepared for participation in combat.

(2) Train troops to clear beaches promptly on landing.

(3) Train in debarkation from transports by use of cargo nets and platforms.

(4) Removal of water obstacles.

(5) Demolitions.

(6) Decontamination of gassed areas.

(7) Assault operations against permanent beach defenses.

(8) Construction of hasty roads.

b. Regimental troop schools will emphasize instruction in FM 31-5.

c. Selected artillery officers to continue training as naval gunfire officers.

By command of MAJOR GENERAL ALLEN:

Normal A. Kota,
Colonel,
Chief of Staff.

S. B. Mason,
G-3.

ANNEX TO SOP
Ship-to-Shore Operations

SHORE PARTIES

1. Shore Party:

a. The term "shore party" is normally used to designate the organization provided to facilitate the landing of a reinforced regiment.

b. It is the logical agency established to facilitate the landing of troops and supplies and to arrange facilities to permit a speedy movement of supplies and transportation inland.

c. It consists of both military and naval personnel.

d. In the case of an isolated landing the Shore Party is attached to the reinforced regiment for the period of landing.

e. In the case where landings are made on contiguous beaches, command of shore parties probably will remain under the commander of the land forces. (The Force Engineer, in this case, is the Shore Parties Commander)

2. Sphere of Action:

a. The Shore Party's sphere of action is the beach assigned to it.

b. The radius of operation inland, other than for signal operations, cannot be established definitely.

(1) Normally it will not extend beyond ½ mile inland.

3. Responsibility:

a. Each Shore Party Commander is responsible to the senior troop commander in the zone as prescribed by the Force Commander.

b. He exercises control of all activities in the immediate beach area as unlimited by the senior troop commander operating forward from the beach.

4. Composition:

a. Military.-- Drawn from force combat engineer regiment (signal attached).

b. Naval.-- Detachments from each transport (AP).

5. Command.-- Vested in the Commanding Officer of the military component of the Shore Party. (Should be a Lt. Col. or a Major)

6. Duties.

a. The combined Shore Party functions in accord with the general principles in FTP 167 and FM 31-5. It will include the following general tasks:

(1) Assist in landing and hauling off of boats.
(2) Mark hazards to navigation in the vicinity of the beach.
(3) Remove underwater and beach obstructions.
(4) Control boat traffic in the vicinity of the beach.
(5) Mark landing beaches.
(6) Construct landing facilities.
(7) Establish unloading points on landing beaches.
(8) Unload the materiel of landing force from small craft.
(9) Effect emergency boat repairs.
(10) Evacuate casualties to ships in accordance with Naval Attack Force and Landing Force medical plans.
(11) Establish communication with adjacent shore parties.
(12) Maintain communications with naval task groups, naval vessels, and forces ashore as necessary.

(13) Evacuate prisoners of war to ships in accordance with Land Force Administrative Plan and as directed.

(14) Construct landing facilities.

(15) Maintain liaison with the senior troop commander within the zone.

(16) Maintain order, direct traffic, and arrest stragglers on and in the vicinity of the beach.

(17) Provide operating, parking, bivouac, and storage areas on and in the vicinity of the beach.

(18) Insure rapid movement of supplies landed to dumps adjacent to the beach.

(19) Provide for decontamination of gassed areas on the beach.

(20) Maintain an active situation map for the information of landing units.

(21) Operate motor maintainance service (emergency repair) to assist stalled vehicles clear the beach.

(22) Operate Boat Pool (Senior Shore Party Commander).

(23) Perform such other administrative functions as are assigned.

(24) Maintain a record showing organizations, material, and supplies which have been landed.

(25) Provide local security for the beach area.

b. Once delivered into dumps adjacent to the beach, the supplies pass from the jurisdiction of the shore party.

7. Organization.

a. Military:

(1) One battalion, reinforced, Engineers (c), less one company.

(2) Normal attachments

From H & S Company, Eng. Regt. (c)
- 1 Major or Capt (Executive)
- 1 Lt
- 3 Sgts
- 3 Clerks
- 6 Runners
- 2 Motor vehicles

(Command Group)

From Amphibious Signal Company (Amphibious Brigade)
- 2 Lts
- 40 Enlisted men.

b. Naval (Total, 2 officers, 58 onlisted men)

From each transport (AP)
- 1 Chief of Section and Assistant Shore Party Commander
- 1 Medical Officer
- 1 Chief Boatswains Mate
- 3 Boatswains Mates
- 1 Signalman 3/c
- 30 Seamen, 1/c or 2/c
- 1 Radioman, 1/c
- 1 Carpenters Mate, 1/c
- 1 Shipfitter, 1/c
- 3 Firemen, 2/c or 3/c
- 1 Pharmacist Mate 1/c
- 1 Hospital apprentice 1/c
- 1 Ships cook 2/c

c. General Notes:

(1) The shore party must be divided into two subordinate units in case of reinforced battalions making separated landings.

(2) Naval components come from the Transport Division on which military elements are embarked.

8. Functional Groupings:

a. Military:

(1) Command Group.-- Exercises control over all shore party activities, maintains an active situation map,--includes location of unit CP's and supply installations. Maintains contact with senior troop commander using the beach he operates.

(2) Communication Section.-- Maintains communication with the senior troop headquarters using the beach and with adjacent shore parties. Maintains all communication on the beaches. Maintains Army ship-to-shore communications when required. Augments Naval communication facilities from shore-to-ship.

Note: The shore party communications handles Naval gunfire communications in emergencies only.

(3) Military Police Section.-- Maintains order, controls stragglers, handles prisoners of war, and controls traffic. (Full authority is vested in the shore party commander to regulate and restrict traffic in the beach area in order to expedite landing operations and the movement of supplies).

(4) Liaison Section.-- All personnel to be familiar with the situation and ready to conduct incoming personnel forward as required.

(5) Salvage Section.-- Hauls out stranded vehicles and supplies. Effects emergency repairs to equipment and vehicles damaged in landing.

(6) General Service Section.-- Responsible for roads and ramps within the beach area. Moves supplies across beach and forward into beach dumps.

b. Naval groups' duties:

(1) Control boat pool.
(2) Repair boats.
(3) Keep landing area clear.
(4) Mark beaches and channels.
(5) Maintain liaison with and receive casualties from troop evacuation agencies.
(6) Transfer casualties to ambulance boats.
(7) Control exchange of medical equipment.
(8) Embark PW's for transfer to ships.
(9) Land supplies and equipment to high water line.
(10) Responsible for communication, shore-to-ship, to boat groups, and to salvage boats.
(11) Controls salvage boats.

c. General Notes:

During the heat of combat, operations must be adjusted in the interest of success. The Shore Party Commander is responsible that indicated adjustments are made. Doctrinal limitations on the assignment of duties will not be accepted as a reason for failure.

9. Equipment:

a. Military:

(1) Engineer Companies.-- Squad and platoon tools carried ashore with men. Company tools follow under a lower priority.

(2) Personnel land fully armed and supplied with ammunition for all weapons.

(3) Tractors and bulldozers for the entire engineer battalion are landed at the earliest practicable hour. (Tractors and bulldozers with the division engineers must be landed early to reinforce the shore party.)

(4) Materials for wire road construction are landed with the first elements of the shore party.

(5) Water supply equipment must be landed prior to H plus 4 hours.

(6) Regimental telephone equipment is carried ashore by the shore party to augment the communication sections equipment, particularly for intra beach communication.

(7) Special personnel equipment (e.g. waders) is carried ashore as individual equipment.

(8) A sound truck is to be assigned to each shore party. In addition, at least six 30 inch megaphones are to be available.

(9) All purpose carts, 12 to each beach, are to be assigned to shore parties.

b. Naval:

(1) Bring ashore special equipment assigned.

(2) A special check must be made that naval personnel have proper individual equipment.

10. Mess Arrangements:

a. The military personnel of the shore party is responsible for

11. Beach Security:

a. The Shore Party Commander is responsible to the senior troop commander for security of the beach.

b. Immediate steps will be taken to site machine guns for ground and air defense of the beach area.

c. Mines and road blocks will be prepared, and AT guns sited for beach security.

d. Air and ground sentinels will be posted.

e. A plan for defense of the beach against a coordinated attack will be made at the earliest practicable hour by the Shore Party Commander.

(1) He will keep the senior commander using the beach posted as to the enemy situation in order that the latter commander may plan the assignment of additional troops and facilities for beach defense.

12. Designation of Beaches:

a. Beaches will be designated by the Force Commander by color (Red, yellow, blue, green, etc.).

(1) They will be marked by the shore party with streamers, colored smoke (intermittent) or shielded lights.

(2) The specific landing point for supplies (e.g. water) will be marked by the shore party with an appropriate pennant or other marker, to be published by G-4 in administrative orders.

13. Beach Control:

a. Beach control passes to the Force Commander when he establishes his headquarters ashore.

(1) At this time attachment to regiments (or LT's) ceases.

ANNEX TO SOP
(Ship to Shore Operations)

The Transport Quartermaster (TQM)

1. General:

a. TQM's are commissioned officers assigned to duty on the basis of one per ship to plan and supervise the loading and unloading.

(1) They are primarily under the direction of G-4.

(2) They also serve as members of the staffs of CO's of troops on the ships to which assigned.

(3) Each TQM will have one NCO assistant and one clerk typist.

2. Duties prior to departure for port:

a. Report to G-4 for instructions. Obtain the following:

(1) Ship to which assigned.

(2) Units to embark thereon.

(3) Name of the CO of troops.

(4) Secure characteristic sheets, hold and profile plans of the ship.

b. Study FM 31-5.

(1) Including appendicies I to IV incl.

c. Report to the CO of troops and request that unit personnel and tonnage tables (P & T tables) be prepared by each CO.

(1) Advise and assist in their preparation if necessary.

(2) Secure these tables from the CO of troops after approval by him.

d. Secure P & T tables from the transport company assigned to the ship.

e. Secure any information available as to the tactical plan.

(1) Discuss with the CO of troops regarding the effect on loading plans.

f. Ascertain from the CO of troops his desired debarkation priority for personnel, materiel, and equipment.

g. Obtain from G-4:

(1) List of reserve supplies to be loaded.

(2) Probable priority of unloading.

(3) Time of arrival at Port of Embarkation of materials, from various sources, to be loaded.

h. Prepare unloading plans in conjunction with the landing table prepared by S-3 of the landing team concerned.

(1) Base unloading plans on:

(a) Administrative order for the landing.

(b) Number and type of landing craft available.

(c) The tactical plan.

(d) The plan of priorities of the CO of troops.

(e) The priority desired by G-4 for unloading reserve supplies.

(2) These plans will be made up into unloading serials based on LCA loads for personnel, and LCM loads for vehicles.

(a) Serials will be lettered as follows:

P for Personnel
V for Vehicles
S for Supplies

(b) They will be numbered serially within each class.

(3) Submit a copy of the unloading plans to G-4 before sailing.

i. Secure from the CO of troops a list in duplicate, of vehicles to be loaded, by organization, type, and U.S. registration number. Submit duplicate before sailing.

j. Have billeting officer designated and proceed with him and assistants to the Port of Embarkation.

3. Duties on arrival at the port:
a. Report aboard ship and go over stowage plans with ships officers.
b. Notify CO of troops of necessary changes to conform to actual conditions on the ship.
c. Require the billeting officer to draw up, with ships officers, plans, subject to approval, for ships guard, mess, quartering, etc.
d. Arrange for messing of troops as they arrive.
e. Require billeting officer to assign spaces for officers and men in accord with troop unloading priority. Billet troops near their combat equipment.
f. Check to see that supplies to be loaded are actually aboard.
g. See that necessary cargo nets, vehicles, slings, etc, are aboard.
h. Check at the Port:
(1) Where freight cars are to be spotted.
(2) Completeness and availability of reserve supplies.
(3) Parking space for vehicles to be loaded.
(4) Facilities for loading.
i. Prepare copies of loading plan for the following distribution:
2 - Division G-4
1 - CO of troops
1 - TQM
1 - CO of transport company.
j. Prepare sufficient copies of Stowage Plan for the following distribution.
2 - Division G-2
1 - CO of troops
1 - TQM
1 - CO of transport company
1 - Each NCO checking loads.
1 - Ships 1st Lt.
1 - Cargo officer.
Note: Show vehicles by type, organization, registration number, unloading priority, location in hold.
k. Upon arrival of the transport (Stevedore) Co., instruct personnel in duties and assign checkers and loading details to each hold.
l. Arrange unloading of freight cars.

4. Duties during embarkation:
a. Act as Liaison Officer between CO of ship and CO of troops.
b. Check serial commander to see that vehicles are gassed, loaded, tagged, and serviced.
c. Make frequent inspections to see that loading is proceeding as outlined in the unloading plan.
d. Check to see that supplies intended for the ship are being loaded.
e. Notify the officer in charge of vehicles as to the order in which vehicles are to be brought to the ship for loading.
f. Keep the CO of troops informed as to the status of loading.
g. Upon completion of loading prepare profile stowage plan for ready reference in location of cargo.
h. Check to insure safety precautions regarding gas and vehicles are complied with.
i. Submit one copy of the following to G-4 before sailing:
(1) Landing Table.
(2) Loading Plan.
(3) Hold Stowage Plan.
(4) Vehicle List.
(5) Unloading Plan.
5. Duties prior to debarkation:
a. Prepare detailed plan for each hold based on unloading plan made under paragraph 2 h.
(1) When unloading plans are approved by CO of troops, furnish copy to ship executive.

b. Instruct hold checkers on the unloading of their holds and furnish them with a copy of unloading plan for their holds.

c. Issue to troops, just prior to debarkation, the amounts of rations, ammunition, etc., as called for by the administrative order.

6. Duties during debarkation:

a. Maintain running check list of all troops and equipment sent ashore.

(1) Include time, boat type, and beach destination.

b. Keep CO of troops informed on the status of unloading.

c. Send reports by the fastest means available, at two (2) hour intervals starting at H hour, to the Division G-4 covering the items listed in this sequence:

(1) Code number of ship reporting.
(2) Time of report in terms of H hour plus.
(3) "P" followed by unloading plan, number of last personnel serial unloaded.
(4) "V" followed by unloading plan number of last vehicle serial unloaded.
(5) "S" (Same as above for supplies).
(6) "A" followed by total number of LCA's actually working the ship.
(7) "M" followed by total number of LCM's actually working the ship.
(8) "X" followed by a brief statement of any difficulties or special matters.

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By Auth: CG, AGF

Date 2/9/43 . [initials]
(Initials)

309-A1/3

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The inclosed report of Lieut. Col. Arthur L. Fuller, Jr., CAC, observer from Headquarters Army Ground Forces to the North African Theatre, is furnished for your information.

CLASSIFICATION changed to
Unclassified
Authority War Dept, AGAD 7A52
By Catherine Zeilberg

SECRET UNCLASSIFIED

SUBJECT: Narrative Report of Antiaircraft Observer in North African Theatre, Lt. Col. Arthur J. Fuller, 27 December, 1942, to 13 January, 1943.

TO: Commanding General, Army Ground Forces.

1. In accordance with radio instructions from the War Department dated 17 December, 1942, the undersigned proceeded from KARACHI, India on 24 December, 1942, to the North African Theatre for temporary duty as an observer for the Army Ground Forces on matters pertaining to antiaircraft artillery.

2. The results of those observations are discussed in the following order:

Par. 3 - Employment of AA.
Par. 4 - Technical Use of AA.
Par. 5 - Aircraft and Ground Force Recognition.
Par. 6 - Passive Defense against Air Attack.
Par. 7 - Comments.
Par. 8 - Recommendations.

INCLOSURES:
1. Itinerary, Units Visited.
2. Distribution of AA in North African Theatre.
3. Answers to Questionnaire from AA Command G-3, AGF, and Requirements, AGF.
4. Comments on Typical AA Units Visited.

3. Employment of AA.

a. During the early planning stages for the operations in North Africa, antiaircraft artillery was apparently given minor consideration in the allocation of transport space in the original convoys. In spite of the influence and recommendations of Brigadier General L. L. Lemnitzer, former G3, Allied Force Headquarters, and Colonel A. Bradshaw, Jr, AA Officer Hq. AF, it was frequently antiaircraft units, or parts thereof, which were eliminated from the original convoys to make room for other units. To a great extent such action was undoubtedly due to unfamiliarity of officers of the other arms with antiaircraft. Since arrival in North Africa, there has been insufficient antiaircraft artillery to meet all demands.

b. (1) The 692d to 697th CA (AA) Separate MG Batteries (AB), inclusive, landed at PORT LYAUTEY with various infantry units. The 694th CA.(AA), landing in the first wave, encountered no aircraft opposition and was called upon to act as infantry to assist in attacks against the French. Another unit, the 696th CA (AA), also attempted to keep up to the infantry and, using three borrowed handcarts, moved all guns and ammunition two miles in three days.

(2) The 443d CA (AA) Separate AW Battalion (37mm gun and dual .50 caliber MG's on half-track) landed in the CASABLANCA area. One platoon (4 guns) of Battery A was attached to the 7th Infantry while a second platoon was attached to the 47th Infantry for the initial landing. The remaining platoons landed later and acted in conjunction with infantry. This unit had had no prior training on maneuvers with other arms. The half-track vehicles were received approximately one month prior to departure from the United States for Africa.

c. Due to the shortage of antiaircraft in the forward areas, all AA units arriving in the ORAN and ALGIERS area during the early stages of the operation were attached to the British First Army and moved forward as soon as possible after landing. As a result, units were split and widely separated, elements of one separate automatic weapons battalion being spread over a distance of about 500 miles. The advance battery of this unit, with one ¼-ton truck and two 2½-ton trucks, occupied four different positions during the period 8 November to 16 December. At one position where they were located about 3 weeks, the battery not only furnished AA protection for a railroad yard, but also assisted in unloading freight. On 4 January this battery was divided between two airfields separated by 50 miles of narrow, winding, mountainous road. Only one of the two 2½-ton trucks assigned the battery was in operation.

d. (1) At one American airfield visited, all antiaircraft is under the Local Defense Commander, an Infantry Captain with no AA experience. This untrained officer designated the positions for all assigned AA, the 40-mm guns after consulting the battery commander concerned, and the .50 caliber MG's as he saw fit.

(2) At a port visited, the positions for the AA machine guns were designated by the Town Major, an officer with no antiaircraft experience.

e. All antiaircraft artillery West of ORAN is under command of the Artillery (FA) Officer at CASABLANCA. The officer furnished this command for duty as AA Officer, according to various reports received, is charged solely with the operation of an aircraft warning net.

f. The antiaircraft Officer, Allied Force Headquarters, was assigned to a convoy arriving in the theatre about three weeks after the initial landing. His chief American and British assistants arrived about two weeks later (6 December). Realizing that antiaircraft units had to be regrouped and that the AA Officer should be consulted on all antiaircraft matters, he submitted a memorandum to the Chief of Staff outlining the duties of such an officer as prescribed by our field manuals. Upon the recommendation of G-3, Hq. AF, however, allocation and other antiaircraft matters are now handled by a committee, through the AA officer.

g. From information obtained in this theatre, (more detailed discussion in Question 21, Inclosure 3) present organization of all antiaircraft artillery units are not easily adaptable to tactical disposition in the field. Units are therefore necessarily split and widely separated thus making adequate control and supervision impossible.

CONCLUSION: Antiaircraft artillery units must receive more training in maneuvers with other arms, including Air Corps, not only for the purpose of training antiaircraft personnel in their duties in the field, but to educate commanders and their staffs in the proper use of antiaircraft artillery before participation in actual combat. The composition of AA units should be changed to more nearly fit the tactical requirements in the field.

4. Technical Use of AA.

a. At each gun position visited, a practice alert was given and a target assigned. With few exceptions the functioning of the gun crew was ragged, the men not being sufficiently trained in their duties so that they were second nature.

b. At automatic weapons positions visited, knowledge in the use of forward area sight was generally poor. At one unit in the forward area where only FAS control had been used (transportation for directors unavailable), two gun positions were visited and the collimation of the FAS checked. Both were out of collimation and the gun commanders did not know how to make the necessary correction. Neither the battery or platoon commander had checked the collimation of any sights in the unit. At another unit, where director control was normally used, orientation of the gun and director were checked at three (3) gun positions. Two were out of orientation.

c. Many directors were out of commission and no Ordnance personnel was available to make the necessary repairs. In some units, battery personnel were insufficiently trained to make even minor adjustments.

d. (1) Throughout the theatre, automatic weapons normally commence firing before the enemy aircraft is within range. The various battery and platoon commanders questioned are of the opinion that such technique is warranted in that early fire will cause Stukas to increase the altitude of their pull-out in dive-bombing attacks, and JU 88's to break formation and dive indiscriminately; thus, in both cases, resulting in ineffective bombing. I saw no results of effective bombing where our AA units were stationed. On the other hand, there was no evidence of an all-out air attack.

(2) I cannot help but feel that such deterrent fire is, in many cases, a result of lack of confidence in the weapon due to insufficient training and target practice firings. In the long run, I believe it better to expend more ammunition in training our antiaircraft to deliver "destructive" fire, than to transport large quantities of ammunition to active theatres for "deterrent" fire. A reputation for "destructive" fire is more apt to cause ineffective bombing over a period of time than any other type of fire.

(3) Prior to 7 December, 1941, the training ammunition allowance for the Field Artillery 75-mm gun and 105-mm Howitzer batteries was 183 rounds each. At present it is 500 rounds per battery. The pre-war ammunition allowance for AA 90-mm or 3-inch gun batteries was 334 rounds. Now it is 392 rounds, an amount greatly insufficient to teach the technical use of the armament against fast moving aircraft to newly inducted troops.

CONCLUSION: There is a universal lack of training of battery officers and gun commanders. Technical knowledge of the armament and the technique of firing is poor. I believe this lack is partially caused by a shortage of time in training, insufficient training ammunition for target practice firings, and a lack of trained officers to supervise, or instruct when necessary, these subjects at our training centers. Ordnance personnel for the necessary repair and maintenance of armament should be organic with antiaircraft units.

5. Aircraft and Ground Force Recognition.

a. (1) Training in aircraft recognition is universally bad among all American troops. For American AA units attached to the 52d AA Bde (Br), the British furnished one trained spotter per gun position for a period of 10 days to act as instructor as well as spotter until American personnel were trained.

(2) AA units were not furnished airplane recognition signals at the start of the campaign. In several instances friendly aircraft have been shot at, and even destroyed, by our own antiaircraft. On the other hand, friendly aircraft have straffed our own troops, and the Air Corps (as well as RAF) have given the wrong recognition signals. There is a decided lack of coordination between AA units defending airfields and the Air Corps personnel stationed thereat.

b. Field glasses are not available at all gun and automatic weapons positions. In many cases positive recognition is impossible

until the aircraft is too close for effective fire. At one unit visited a Telescope, M4, obtained from an Infantry regiment, was used satisfactorily for this purpose.

CONCLUSION: (1) Training in aircraft recognition must be stressed prior to arrival in an active theatre. Air Corps must learn proper coordination with, and recognition of, our ground forces. Antiaircraft and Air Corps must participate jointly in maneuvers concerning defense of an airfield to learn proper methods of coordination prior to combat.

(2) All AW gun positions should be furnished field glasses or other suitable observing instrument, for each gun position.

6. Passive Defense Against Air Attack.

a. At all AA positions visited field fortifications were universally poor. All were too large, many improperly constructed, and there was little indication that officers and enlisted men had been properly instructed in such matters. Some men admitted that the first time they had ever fortified a gun position was in North Africa.

b. Units, both antiaircraft and ground forces, are learning passive defense the hard way. For example:

(1) One AA battery, upon arrival at the bivouac area of Combat Command B, halted on the road in a closed formation prior to occupying a defensive position. The column was immediately straffed by two enemy aircraft. Enemy aircraft remained in the vicinity the remainder of the day and made spasmodic attacks, both bombing and straffing, so the battery did not occupy their selected positions until nightfall. In the meantime, the 40-mm guns were lowered into firing positions on the road. Five hours after the battery had been halted, the column was dive-bombed. No field fortifications had been constructed. One bomb killed 9 men and damaged one gun.

(2) On the night of 25-26 December, an enemy plane flew at a low altitude over a troop bivouac area (not AA unit), circled, and then on a second trip dropped a 250-pound bomb. Two guards standing erect at their posts, 150 and 200 yards respectively away from the point of impact, were killed. Four out of twelve non-commissioned officers asleep, in spite of an air alert, in their beds in a building 140 yards away from the point of impact were seriously injured. Thirteen trucks lined up without interval in a semi-circle against a fence were seriously damaged.

c. Camouflage and camouflage discipline were universally poor. What efforts at camouflage were attempted were done after the battery had moved into position and the guns dug in.

(5) Due to ammunition shortages, very little firing had been possible.

(6) The 105mm Howitzers of the 17th FA are very old, and officers were somewhat concerned about their being able to stand up under service conditions.

(6) Physical condition of the men appeared to be excellent, and continual training was in progress on individual and unit training.

(7) These units have had no combined tactical training since November 1941.

17. DECEMBER 2 - 3 - 7. Liaison Visit to the Street Fighting Wing, London District.

Proper training areas for this type of indtruction are very important. This school is fortunate to have a ready-made area, or at least a German-made one. The area embraces about sixty acres in a district which was badly shaken, but not destroyed by bombing. Houses and buildings provide a realistic picture of conditions that would be encountered upon entering a town which our bombers and artillery had plastered.

The student personnel is composed of young officers from many organizations. From the various insignia I noted students from Commandos, Engineers, Infantry, Airborne and several men whom I had seen at the Combined Operations Center. The class observed was composed of twenty officers, who were being trained as instructors. The course of instruction, although short - one week, appears to be ample as no time is wasted during the period. The methods of instruction follow very closely our MIT, and the presentation of the subjects was the best noted in any British school.

Objects of the course are: (1) To suggest what street fighting looks like, feels like and methods of instruction; (2) to show the results that infantry can obtain from simple explosives; (3) to show the use of infantry platoon weapons.

The opening lecture presents to the class the difficulties of street fighting. Here it is explained that the tactical principles which apply to warfare in the field apply also to street fighting, but that penalties for mistakes are higher. The main difficulties encountered in street fighting are: (1) Difficulty of reconnaissance; (2) difficulty of communication; (3) difficulty of deployment; (4) difficulty of artillery cooperation; (5) difficulty of air cooperation. The student is impressed with the fact that street fighting is almost the only type of warfare where victory does not automatically go to the side with the most machines and mechanics. MORALE, always important, is all important in street fighting.

Demonstrations were unique, and realistically depicted the "wrong" way to perform the job, illustrating the resultant needless loss of life. Then, immediately thereafter, the right way was demonstrated, and the comparison of the two left a clear picture in the observer's mind.

Here again battle inoculation was demonstrated at the first instruction period. The class was placed in a bombed building facing a square. The enemy was located in buildings across the square and opened fire on the building where the class was standing. The class was told to attempt to locate the source of the rifle, Bren gun, mortar and antitank rifle fire which was being placed on the building. The 68 rifle grenade was also fired at the building, and produced a distinct shock upon impact. Upon completion of the demonstration, it was learned that the "reasonably safe" safety precautions permitted the fire to be very close above the students' heads.

The proper selection of firing positions in buildings is very important. Students were impressed with the fact that positions must be so selected to avoid disclosing the position by muzzle blast, which is particularly likely to occur in bombed buildings because of the dust. Positions well back inside the buildings were recommended, and liberal use of "dummy" positions suggested. The delivery of fire from a position well back in a building was demonstrated, while a movement of curtains in a nearby dummy position seemed to indicate the location of the firer.

The difficulties pointed out in the opening lecture were brought out clearly by demonstration of a section (squad) clearing a street. Here, injected into the course, is the need for some form of battle drill. A demonstration was then shown of section battle drill for clearing a house, and then of clearing a street. The principles of this drill are that: (1) Objectives must be well defined and limited; (2) movement must always be accompanied by covering fire; (3) momentum must be maintained; (4) all men must use iniative in absence of orders.

All troops taking part in the demonstrations took every advantage of cover and concealment. However, it was noted that the cover was taken not merely to "hide". Men were always in a position to observe and to deliver fire. Excellent use was made of nets painted mottled brown and green. The nets of approximately 4' x 4' dimensions were used over the wearer's head much like a veil. When not needed, it was wadded up and carried in the soldier's pocket.

Discussions and demonstrations of the employment and capabilities of Infantry weapons brought out several points of interest. The use of the rifle and pistol is preferred to the "tommy gun". This is claimed due to the fact that the tommy gun has not proven effective in firing through doors, ceilings and floors. Also, the expenditure of ammunition is excessive, and proves an important factor in street fighting where all ammunition must be carried by hand. Smoke is used

extensively, both in grenades and the 2-inch mortar. Here, again, as in previous reports, I would like to point out the excellent smoke produced by this mortar. The mortar is fired at low angle against the sides of buildings, causing the projectile to ricochet into the street. The street was completely screened after firing two projectiles. The 68 rifle grenade is very effective in breaching walls. The anti-tank rifle was employed to penetrate walls, and against this type of masonry penetrated 14 inches. The use of the pistol in searching a house was demonstrated. The student is taught to enter the room with the pistol held at an angle of 45°, squarely in front of the body. When the target appears, the pistol is brought up by a movement of the arm at the shoulder, and two shots are always fired. For long-range firing, the pistol is held with both hands, the right hand pushing out and the left pulling in.

Use of explosives was discussed and demonstrated in detail. Sticky grenades, Hawkins grenades, slabs of guncotton and anti-tank land mines were used to breach walls.

A very rigorous assault course over a block of houses was first demonstrated by the demonstration platoon, and then students were required to negotiate it. This course is tough, dangerous, and required a great deal of nerve control and balance. Extensive use of toggle ropes is made in crossing alleyways. The students go over the course as a section, and are confronted with several tactical decisions.

SECTION III.

NORTH AFRICA

DECEMBER 24 - JANUARY 7. The following narrative covers visit of the observer in the area of The Eastern Assault Force and The British First Army, North Africa. Valuable aid was given in the preparation of this report by American Staff Officers and American Combat Commanders who had been in action in TUNISIA.

1. General.

a. Early in December, it was realized that the race for TUNIS and BIZERTA was definitely over. Units of the EAF had been fed into the British First Army, piecemeal, to meet immediate needs. The resultant was an army not properly balanced for offensive combat. In the interest of speed, provisions for permenent maintenance in the field of organizations had been sacrificed. This breaking down of units into their subordinate elements had resulted in improper employment, particularly of artillery units.

b. The long lines of communications, and the terrain through which they pass make the supply problem in TUNISIA extremely difficult under normal conditions. Supplies moving by rail to the East

over the lines now operated by the British must pass through some of the most difficult mountain country in the world. The standard gauge French railroad extends from ALGIERS to the East, through SETIF, OULED RAHMOUN, CONSTANTINE, SOUK-AHRAS, AND SOUK-EL-ARBA. Supplies for the SOUTHERN SECTOR must be transferred from the standard gauge to the narrow gauge railroad at OULED RAHMOUN, and proceed to TEBESSA.

c. The worst part of the supply problem was the breaking up of units into small parts so that normal supply methods could not function. However, it appeared, at the time of the observer's visit, that this was being corrected. On a trip through this area on January 3, 4 and 5, it was noted that a definite move was on foot to relieve American units in the front lines, probably with the view of placing them again under American command. Move was also on foot to establish an American line of communications, to be operated by American personnel, and, generally, paralleling the one now operated by the British. Colonel Heavey and myself ran into advance parties of the 1st Infantry Division, seeking bivouac areas East of CONSTANTINE.

d. The depletion of equipment, particularly motor transport, has been much more rapid than that of men. The losses of Combat Command B, [redacted] already handicapped by the long overland trip from ORAN, have been difficult to replace. The question has not only been one of maintenance, but of replacement of complete units. The lack of spare parts has also placed a handicap on the motor maintenance problems, and only by the robbing of parts from vehicles destroyed by enemy action, has it been possible to keep others running. The establishing of a second line of communications will tax the available motor transport even more heavily.

e. The difficult motor supply route from ALGIERS to CONSTANTINE passes through ALMA - BOUIRA - SIDE MAILLOT - SETIF. This road is tarmac over the entire route, with sufficient room for two-way traffic. In places where the road passes through the mountains, there are many bridges and tunnels. Some of these were lightly guarded by the French, but could be easily blocked by sabotage. The same is true of the railroad which closely follows the motor route. From CONSTANTINE to the East, the road is good hard surface to SOUK EL KHEMIS. From CONSTANTINE south to TEBESSA, the road is hard surface for one-way traffic. Shoulders are dirt and probably would not stand up under heavy traffic.

f. The success of the operation in TUNISIA apparently hinges on our ability to solve the supply situation and to concentrate our forces for coordinated effort that will drive the AXIS out of NORTH AFRICA. The G-2 estimate, British First Army, showed that the AXIS had 65,000 effective troops, and 262 M III and M IV medium tanks in the area BIZERTA-TUNIS-SFAX-GABES, on 3 January 42. An accurate estimate of the German Air Force in this area is difficult due to the manner in which planes are shuttled back and forth from SICILY.

g. The cold, rainy weather, with its resultant mud, has limited both ground and air activities. By the same token it has slowed down movement of men and supplies. However, American units state that there has always been an ample supply of food and gasoline. There were several instances of difficulty of ammunition supply due to various causes, which will be referred to later in this report.

2. ENEMY MORALE. The morale of the German infantry, as indicated by PW's, is very low, and they are glad that the war is over for them. Interrogation has reveeled the presence in TUNISIA of at least four German Draft Battalions. The main sources from which these troops were obtained are apparently (1) Seasoned troops wounded in Russia and then drafted to depot units in Germany, and (2) newly conscripted personnel, drawn mainly from industry and previously exempted classes. These men have had only four to twelve weeks elementary infantry training. According to American SOS officers, the morale of the German Air Force and Armored Force prisoners is high. As is always the case, the Italians are all glad that it is over for them.

3. ENEMY TACTICS.

a. 1st Battalion, 6th Armored Infantry, reports that in action against German Paratroops they observed the enemy using illumination both day and night to mark front lines prior to an attack and for air-ground cooperation. FOXHOLES dug by the Germans are $2\frac{1}{2}$' x $1\frac{1}{2}$' and about four feet deep, with no spoil, and good fields of fire. The tendency of the German soldier was to pick obvious targets like Arab huts or haystacks for machine gun nests. The German is good in advancing his light machine guns by infiltration, and in concealing them. The German paratroops use mortars, automatic weapons, and are supported by accurately-adjusted artillery fire. Shrapnel was fired by the artillery and many duds fell. Air-ground cooperation of the Germans was excellent in both dive bombing and strafing. The infantry attacked in platoon column at a steady pace described by the men as the "march of the walking dead". They started the advance about 1500 yards away and kept coming up to the position without firing or faltering when mortar fire would knock out part of the column. The 20mm machine gun used by the Germans penetrated the half-tracks easily.

b. Germans are using the newest model PZ KW III and PZ KW IV medium tanks. The PZ KW III is armed with a 5cm gun, and the PZ KW IV with the new long-barreled 7.5cm high-velocity gun. Practically every attack by infantry is preceded by tanks in small columns. The 88mm AT gun is always coordinated with every tank movement so they can be used as a defense base, if necessary. Many of these guns have been observed being towed by tanks. Gun positions are always well concealed and their fire is accurate. The favorite trick is to allow our armor to pass their positions in pursuit of the German armor, and to hit our armor from the rear.

c. German tanks and paratroops reconnoiter by fire. Every suspicious spot is sprayed by fire from automatic weapons. Germans allow the Infantry to ride to within 2000 or 3000 yards of the objective. The tanks then try to outflank the objective, while the infantry frontal attack or the tanks make the penetration and during the resultant disorganization of the troops being attacked, the German infantry drives them out.

d. In occupying territory previously occupied by the Germans, many "booby traps" were discovered. Slit trenches or foxholes, already dug, were likely to have personnel mines in them. Any bayonet or rifle sticking in the ground was likely to be hooked to trigger wires of mines. One instance of a truck running over an empty shell case, which was part of a pile, and being destroyed, is reported. Fountain pens and brightly-covered cigarette boxes are other favorite booby traps.

e. German aircraft have been very active in delivering dive-bomber and low-flying attacks on ground troops. The attacks are continuous in instances where ground installations have been located and sufficient antiaircraft is not present. Many instances have been reported of JU 88's attacking single motorcycles on the road. In attacks on motor columns, the aircraft will usually deliver a low-bombing attack first and then return to strafe the column. In many cases, it has appeared that the German aircraft armament is so adjusted that cannon fire is delivered on the column and, at the same time, machine guns sweep the ditches. THIS MEANS THAT MEN MUST NOT SEEK COVER IN THE DITCHES, BUT MUST CLEAR THE ROAD BY AT LEAST 40 OR 50 YARDS.

4. OWN TROOPS.

a. Infantry: The part that small units are playing in this war is clearly illustrated by the action of two platoons of Company L, 26th Infantry. These two platoons, well led by two young officers, made a night raid on 17 December 42 on the town of MAKNASSY. Using the tactics as laid down in our text, these units made a successful raid against the town occupied by 150 Italians. The units jumped off at 0100, and withdrew at 0400. The Italians were caught entirely unaware, and the following results were obtained: (1) Enemy losses - 15 killed (est.), 30 wounded (est.), and 21 prisoners taken; (2) Own losses - none killed and two men wounded.

The "536" radio worked excellently between platoons. The platoon commanders believe that a 60mm mortar could have been effectively employed against the machine guns, due to the bright muzzle blast given off by these guns.

The speed of advance of units [illegible] African campaign has resulted, in many instances, of troops rushing into frontal assault on an enemy position. The mistakes made in maneuvers are, there-

fore, being repeated on the battlefield. The use of envelopment tactics, as laid down in our manuals, should always be exploited.

Results from the use of AT grenades have been disappointing due to lack of marksmanship training. Ample practice grenades, and enough live ones for service practice, should be allocated to units in training within the theaters of operation, or to units about to be moved overseas.

Lessons from the North African Theater clearly point to the use of the FOXHOLE IN PREFERENCE TO THE SLIT TRENCH FOR FRONT LINE UNITS. There is the case of one battalion of British Guards being almost completely annihilated due to tank attack. THE TANKS GROUND THEM TO BITS IN THEIR SLIT TRENCHES.

b. Artillery: The action of the artillery of the 1st Infantry Division at ORAN clearly brings out the need for the third liaison section. All artillery and infantry units were committed, and it was necessary to improvise the third section. The action of this unit is conclusive proof that the methods of massed fire are correct, and that the teachings, as laid down in our text and schools, are sound.

The landing of the Eastern Assault Force at Algiers brings out the need for closer supervision in the loading of artillery ammunition. The 39th CT attached to the EAF landed with both 75mm pack howitzers and with 105mm howitzers. It was found among the ammunition loaded in the United States that 75mm gun ammunition had been laoded for the pack howitzers, and that there was a quantity of MUSTARD SHELL among the 105mm howitzer ammunition. Had this unit been committed to action, some difficulty would have occurred. Vehicles accompanying this unit as prime movers consisted of $\frac{1}{4}$ ton and $\frac{1}{2}$ ton. The terrain at the beach where this unit actually hit prohibited the moving of the 105mm howitzers with the $\frac{1}{2}$ ton weapons carriage. This clearly illustrates that in landing operations the prime movers for 105mm howitzers must either accompany the gun or be available on the beach.

Due to pressing needs, the American Artillery Units fed into the British First Army have not always been properly employed. The tendency has been to split the battalions into their battery elements rather than to employ them in their normal manner. However, in all instances where the massed fire of the battalion has been utilized, the results have been excellent.

American units under British command have always had an amply supply of food and gasoline. The 175th FA Battalion (25 pdr. gun) has always had an ample supply of ammunition. However, there have been instances of shortages with the 5th FA Battalion (155mm how.) and with the 27th FA Battalion (105mm how.). This has,no doubt, been largely caused by the British not being accustomed to the ammunition supply

of weapons of this caliber.

That an artillery unit must habitually defend itself against ground attack by infantry is illustrated by the action of Battery A, 175th FA Battalion on 10 December 42. The battery position was attacked by approximately 250 German infantry. The battery had prepared a good close defensive position, and was able to drive the enemy off with machine gun and rifle fire.

The .50 caliber machine gun has proven the ideal weapon for defense against low-flying aircraft. Attacks by these planes, estimated by the Air Corps at 450 miles per hour, are too fast to permit the traversing of the Bofors 40mm AA gun. The .50 caliber machine gun has made an excellent record, both in use by artillery units and by AA units. The 175th FA Battalion has official credit for two JU 88's using this weapon. Since all fire of artillery units using this gun is against aircraft, the inclusion of a higher percentage of tracer, AP, incendiary is felt advisable.

The 37mm AT gun has definitely proven ineffective against the German M III and M IV tanks. To have any chance for penetration they must be sighted for shoulder defilade to give broadside shots. However, the German makes effective coordination of tanks with infantry, and it is difficult to get a broadside shot.

Only one operational report of the Air OP was available in the North African Theater. This was by Major H. C. Bazely, 651st Squadron, R.A.F., flying a Taylorcraft. The plane operated with the 175th FA Battalion, and flew a successful mission against a group of enemy tanks. At the time of this observer's visit, three American Air OP's were moving forward and the C in C had specified that they work with American Artillery Units.

c. Armored Force: The long overland trip from ORAN by units of Combat Command B, 1st Armored Division, resulted in a maintenance problem not before encountered. Tank tracks of the light tanks had already been turned prior to leaving the UK, and this additional trip placed them in a bad state. After the ill-fated battle of MEDJEZ EL BAB, in which this unit suffered heavy equipment losses due to enemy action, and to bogging down of vehicles in mud, the remaining tanks of the Command had gone over 300 hours without maintenance. Complete rehabilitation and, in many cases in the mediums, complete engine replacements were necessary. Although the equipment of this unit has now been replaced, several excellent lessons should be learned. A TANK OR VEHICLE IN NORTH AFRICA IS WORTH TEN TIMES ITS VALUE IN THE UNITED STATES AND MUST NOT BE ABANDONED UNTIL THERE IS NO HOPE OF RECOVERY. THE OLD MANEUVER ERROR WAS REPEATED IN THIS UNIT AT A HIGH COST. IMPROPER ROUTE RECONNAISSANCE RESULTED IN THE LOSS OF A HIGH NUMBER OF COMBAT VEHICLES. THE VEHICLES BECAME STUCK IN THE MUD AND HAD TO BE ABANDONED.

d. Air-Ground Recognition: The misidentification of aircraft by American troops, and the misidentification of ground troops by American aircraft have resulted in several fatal events in the North African operation. The case of faulty identification of American P-38 aircraft by a gunner of the 701st TD Battalion resulted in the vehicles of one battery being almost completely immobilized. IT IS, THEREFORE, APPARENT THAT SOME STANDARD MEANS OF IDENTIFICATION TRAINING MUST BE ADOPTED BY AMERICAN UNITS. The British method, which is simple to install, is highly recommended for study.

SECTION IV.

COMMENTS AND RECOMMENDATIONS.

1. UNITED KINGDOM.

a. British Training: In only a few respects are British training methods superior to our own. The outstanding methods observed were: (1) The realistic preparation of troops for the shocks of battle by battle inoculation; (2) the specialized commando training; (3) training of assault troops in street fighting; (4) speed of maneuver, and the intelligent use of smoke.

b. Recommendations.

(1) That our combat units be subjected to battle inoculation prior to shipment overseas.

(2) That all units include in their training a modified type of commando training for physical conditioning.

(3) That all assault troops be taught the principles of street fighting.

(4) That the battle drill principles be taught to all small units, and that the intelligent use of smoke be emphasized in our training.

c. American Training in the British Isles: In spite of the many handicaps encountered because of weather, limited areas and equipment, it is the opinion of the observer that units progress much more rapidly in their training in the British Isles than in the United States.

d. Recommendations.

(1) That the sending of combat units to the British Isles be continued.

(2) That, insofar as possible, equipment be shipped to precede the unit in order not to handicap their training upon arrival.

(3) That more individual and small unit training be given instead of large maneuver training prior to shipment overseas.

(4) That all officers and men be instilled with the knowledge that Infantry is the basic unit, and that any unit may, at any time be forced to fight as infantry.

2. NORTH AFRICA.

a. The lessons learned from combat by American troops in North Africa have been manifold, and it has been repeatedly shown that the maneuver mistakes in the past have become the battle field mistakes of the present. The errors made have not been because of faulty teachings or faulty information printed in our manuals, but have been made because the methods laid down have not been known or have not been followed.

b. Recommendations.

(1) That officers be instilled with the knowledge that the mistakes in combat problems in training, if not corrected, will become disastrous mistakes in battle.

(2) That officers and men be familiar with Infantry tactics, and schooling be stressed in training with personal weapons.

(3) That the importance of vehicle maintenance be brought home to all troops. A VEHICLE IN NORTH AFRICA IS WORTH TEN TIMES ITS VALUE IN THE UNITED STATES.

(4) That some standard method of aircraft identification training be adopted.

(5) That the T/BA for all ground units on the .50 caliber machine gun be studied with the view of increasing the number where at least one to every two vehicles will be included.

(6) That the lessons learned in combat be transmitted to units in training in the United States in the form of Training Memoranda.

3. GENERAL.

a. The subject of air photos is vital to the field artillery, and, apparently, the delivery of air photographs to artillery units within the theater of operations is still unsolved. The Air Corps Observation Squadrons were not equipped to take photos for artillery in the British Isles, and, so far as can be determined,

are still not equipped in North Africa. The Allied Air Force has just been reorganized under General Spaatz, and the Photo Reconnaissance Unit has been given equal representation with the 12th Air Force and the R.A.F. The PRU is capable of taking either vertical or oblique photographs and uses the same type of cameras necessary for taking artillery air photographs.

b. Recommendation.

It is recommended that, if the Observation Squadrons will not be capable of taking sufficient air photographs for delivery to the artillery, some means be devised for securing the necessary air photographs by request to the Air Corps Photo Reconnaissance Units.

SECTION V.

PHOTOGRAPHS AND ANNEXES.

Annex No. 1 - Oblique Photography.

Annex No. 2 - Air O.P. Training.

Annex No. 3 - Royal Artillery Motor Transport School.

Annex No. 4 - The Infantry School.

NOTE: Annexes listed in Section V are on file at Headquarters Army Ground Forces.

William S. Myrick, Jr.
WILLIAM S. MYRICK, JR.,
Lt. Colonel, FA.

309-A-1/9

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Auth: CG, AGF
Initials: [signature]
Date: 2-10-43

309-1-1/9

OBSERVERS' REPORT

This report summarizes observations made by:

LT COL W. H. SCHAEFER, INF, and
MAJOR FRANKLIN T. GARDNER, FA,

in ALGERIA and TUNISIA during the period December 26, 1942, to January 20, 1943, inclusive. Organizations visited: all elements of the 1st Infantry Division, Headquarters Second Corps, Headquarters Allied Forces, Headquarters 1st Army, (British) 1st Provisional Ordnance Battalion (Heavy Maintenance), 18th Infantry, 32nd Field Artillery Battalion.

Reports on combat operations are based upon the period January 9th to 14th inclusive which was spent with the 18th Combat Team, attached to the 6th Armored Division (British), and was in position southeast of MEDJEZ-EL-BAB at the time of these observations.

W H Schaefer
W. H. SCHAEFER,
Lt. Colonel, Inf.

Franklin T Gardner
FRANKLIN T. GARDNER,
Major, Field Artillery.

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Authority War Dept, AGAD 9A52
By Catherine Zeilberg

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1. Personnel

a. Morale. The morale of the troops observed was excellent. The chief factors tending to weaken morale were the cold muddy weather at the front, monotony of the British rations served to American troops at the front, and extreme slowness of mail delivery. Much mail delivered at the front about January 10th had been posted in this country in late October.

b. Health. The health of the troops observed was considered exceptionally good in view of the living conditions of the troops. No serious epidemics have occurred. The chief medical problems have been mild diarrhea (believed caused by highly mineralized drinking water), supplies, and infestations by fleas and lice which have occurred in small percentage of cases only.

c. Recreation. Recreation facilities were limited, but were being steadily improved in the rear areas. The average American soldier very sensibly realizes that the essential supplies must be given priority over extensive recreational facilities.

d. Newspapers and News Bulletins. The distribution of daily news bulletins to be posted on all unit bulletin boards, the distribution of the ALGIERS edition of the "Stars and Stripes" and of the GIBRALTER CHRONICLE, and the reception of popular programs and news broadcasts over organizational radios is of inestimable aid to morale. Care should be taken, however, to avoid extravagant statements in news bulletins and soldier papers. For example, the Stars and Stripes carried the statement that all troops in NORTH AFRICA would have turkey for Christmas - a wish which was obviously incapable of realization for many of the fighting troops.

e. Casualties. Considerable difficulty has been encountered due to lack of knowledge of proper graves registration procedure. Bodies have been temporarily buried after removal of one or both identification tags, rather than left with both identification tags for graves registration personnel. The handling of wounded has been superior. The award of the Purple Heart to wounded men returning to service with their organization is excellent for morale.

f. Prisoners of War. Prisoners of War processing sections should be attached to units engaging in amphibious operations. The handling of prisoners of war has proceeded in orderly fashion and has not burdened interrogators except when a very large number of prisoners were taken during the first three days after the landing in NORTH AFRICA.

2. Intelligence.

a. Combat Intelligence. Our training in combat intelligence appears generally satisfactory. The chief means of obtaining

this information were reports of returning patrols and reports from the artillery OP's.

b. Counterintelligence. Camouflage and concealment and light discipline were superior. The only serious breach of good camouflage discipline was the unnecessary deepening and widening of some trails leading into our artillery positions. The British camouflage net, draped, was employed over all vehicles in the open and most artillery pieces when not firing. The Arab natives of NORTH AFRICA are a serious counterintelligence problem. To what extent they are furnishing information to the enemy is not known, but there can be little doubt that he is obtaining much valuable information from this source. It is the belief of the observers that all natives should be evacuated from the front line area as the Tunisian Arabs appear unfriendly.

c. Air. No aerial reconnaissance information was furnished to the 18th Infantry or 32nd Field Artillery Battalion during the period of the observers visit. A request for an aerial photograph was made and the infantry regimental commander was informed 72 hours later that the photograph would be delivered in the near future. Numerous other requests for photographs had been previously made. There is a need for much closer air-ground cooperation in the Tunisian area.

d. Maps. Excellent 1:50,000 and 1:500,000 contoured French maps were available in ample quantities for combat troops.

3. Operations

a. Staff. Operations in NORTH AFRICA to this time have offered no opportunity for the division commander and his staff to control the division as a unit in combat. It is to be hoped that in the near future American division staff, functioning as such, will receive combat training. Regimental and battalion staffs observed, both infantry and field artillery, were well trained and operated well under combat conditions.

b. Tactical Employment. British and American units should not be mixed (for example, attachment of an American battalion or regiment to a British division) because of the differences in their methods and vocabularies. It is difficult for both British and American organizations thrown together in combat to operate as an effective fighting team because of their different methods of doing and saying things.

c. Air Support and Antiaircraft Fire. Allied fighter planes were observed in the 18th Infantry area in very small numbers only, and then long after their potential targets had returned toward Tunis. Numerous German reconnaissance, bomber (Stuka), and escort planes were in action in the 18th Infantry area. Stukas pulled out of their dives above the ceiling of .50 caliber machine gun fire; in fact no planes were observed in this sector within the range of .50 caliber machine guns. 40 mm Bofors guns, British manned, were observed firing on enemy planes on many occasions with very poor results. One, and possibly two, enemy planes were brought down in the 18th Infantry area by Bofors fire.

d. Infantry. The 18th Infantry held a 14,000 yard front in a defensive situation. The terrain occupied was exceptionally fine for defensive operations. Observation deep into the German lines was available both from OPL and the MLR. Our patrols were very active frequently penetrating serveral kilometers into the German lines. Patrols used a diamond formation and men in patrols were armed with tommy guns. Because of the large front held the regimental reserve prepared to assist a counterattack.

e. Artillery. The 32nd Field Artillery supporting the 18th Infantry was prepared to support the main line of resistance with all batteries from its main battery positions. There were many fine howitzer positions, well defiladed behind holes or knolls. Roving guns operating ahead of the main line of resistance, frequently from defiladed positions just behind the OPL, were extremely effective. Fire was delivered and consisted of harrassing and interdiction fires on schedule during the night and fires on targets on opportunity during the daylight hours. Survey was very complete, employing a 1:25,000 grid sheet. Targets not visable from the OP's, reported by the infantry, were adjusted to the grid sheet from the 1:50,000 French map. Fire direction and unifications, both of wire and radio, were superior. Radio was employed only when wire was out; the chief causes of interrupion of wire service were bombing and dampness.

f. Engineer Activities. The area of the 18th Infantry was extensively mined, British mines were employed. Infantry officers planned the mine fields and supervised the laying of mines by infantry personnel. Mine fields were marked by one low strand of barbed wire and red and white diamond signs at the corners of the fields. Many dummy mine fields employing wooden blocks were also laid. The intention was not to prevent the enemy from discovering the fields but to delay him should he attempt to break through. The markings of fields was considered necessary to keep American and British vehicles and personnel from straying into the fields. The infantry commander was prepared to support all mine fields with machine gun and mortar fire.

g. Signal and Transportation. Signal communications observed were generally excellent. The chief signal supply problems were wire and batteries; replacements for these items were badly needed. Some radio troubles occasioned by the salt water on the landing or by the rainfall were reported; radios observed were actually working excellently. The artillery expressed the desire for two additional SCR 610 as reserve because of the fragile nature of this set. Motor maintenance observed of the front line units was superior. The 18th Infantry used a "service station" system of maintenance with excellent results. The motor transport allowance was inadequate, necessitating drastic overloading of vehicles in order to carry essential equipment plus ammunition. All movement of vehicles larger than ¼-ton vehicles at the front was restricted to night operations. Black-out lights were employed in night driving in rear areas (between rear echelon and supply point), and NO lights were employed between rear echelons and the front. The 2½-ton, 6x6, truck frequently loaded to 4-tons payload has functioned very well.

The 18th Infantry reported the necessity of a more powerful radio than the SCR 536 for Battalion to Company command use and something for use into the platoons. The reason given is the great distances.

h. Antitank, Gun Position and CP Defense. The 37 mm antitank guns were so emplaced as to fire on German tanks after the tanks had passed the guns so that the vulnerable rear section of the tanks would be exposed to the 37 mm gun. A general desire was evident for a heavier weapon than the 37 mm antitank gun for this purpose. The 37 mm gun of the 18th Infantry Combat Team including guns of the artillery antitank platoon were emplaced in accordance with the combat teams commander's antitank plan. The cannon company as mobile reserve was assigned zones within which to assist in antitank defense. Each artillery battery was responsible for defense of its positions. .50 caliber machine guns were pushed well out from batteries and the artillery CP by day for antiaircraft defense and pulled in for close-in defense in the night. An adequate sentry system was maintained at given positions of artillery CP. The infantry regimental CP was protected by the band and by the .50 caliber machine guns which were ordered not to fire on aircraft to keep location of these guns from the enemy. No American tank destroyer battalions were in action on the Tunisian front at the time of the observers' visit.

i. Fox Holes and Slit Trenches. Deep fox holes with the firing step were employed by all personnel on the outpost line and for defensive positions along the main line of resistance and in CP gun position areas. Slit trenches under cut 2 to 3 feet

from the surface were very popular for sleeping purposes. Caverns dug inside holes were also very frequently used for sleeping purposes. Fox holes, slit trenches and caverns were covered by the shelter halves and by natural vegetation thrown over the shelter halves for camouflage. Candles were frequently burned in caverns or slit trenches thus covered at night. Personnel working at night frequently operated by the candle light in caverns of this type. Shallow slit trenches or sleeping trenches longer than the height of a single soldier are not employed.

There is a serious shortage of batteries of all kinds including lantern and flashlights.

4. Supply.

a. Chemical Warfare. It is the belief in the North African theater that possibility of using chemical agencies by the enemy is so remote that chemical warfare equipment is given a very low transportation priority. Decontamination equipment is being stored in rear areas. A few suits of impregnated clothing are kept in regimental and separate battalion supply installations. Soldiers are not wearing gas masks. Men do have the masks with their positions in the front.

b. Engineer. Camouflage poles and wire are not carried by the artillery organizations since the draped British camouflage net is used. The need was expressed by Engineer officers for a variety of heavy structural material in Corps to be released to the Division Engineers as needed. Engineer bathing units are badly needed for troops returning to rest quarters from the front. An Engineer water unit should be attached to an infantry regiment when it is operating detached from its division.

c. Medical. Medical service has been excellent. Hospital space in the North African theater is in far excess of requirements.

d. Ordnance. Ordnance service observed was outstanding. Many of replacements have been manufactured in the field by the 1st Provisional Ordnance Battalion (HM). This organization has also improvised much equipment, particularly mounts and ammunition boxes for the .50 caliber machine guns. Although field ranges are a quartermaster item, this battalion had manufactured repair parts for 45 field ranges on January 7th. The battalion sends out contact parties to American units operating over a wide front and has supplied these units with ordnance repairs, replacements and with ammunition, frequently working around the clock on rush emergency jobs.

e. Quartermaster. Quartermster supply observed was almost entirely British supply to American troops. British clothing, rations and gasoline were reaching American Troops promptly as needed. A need was expressed for white gasoline for field ranges and Coleman lanterns in order to reduce replacements necessitated by the field cleaning when lead gasoline was employed. The supply of replacement mantles for Coleman lanterns was also desired. Light proof CP equipment observed was not in accordance with present tables, was improvised in some cases, but worked well except for difficulties in obtaining satisfactory light for work with maps and firing charts at night, due to the fact mantles and generators for the Coleman lanterns were nearly all expended necessitating work by candle light.

f. Ammunition. Approximately two days of fire are maintained within the infantry regiment and artillery battalion. No difficulties in ammunition supply have occurred. 2½-ton trucks are habitually loaded to 4 tons on ammunition hauls.

g. Traffic Control. The British Traffic Control system is excellent. Where necessitated by very narrow roads one-way traffic is effected and operated under close supervision of British traffic control personnel. Distribution of all classes of supplies is made at a supply point approximately 25 miles from the rear of the 18th CT. A portion of the route to and from the supply point was over one-way roads. Organic vehicles of the combat team were used in transporting all supplies and ammunition from the supply point to the 18th Infantry and 32nd Field Artillery Battalion.

5. Summary.

Our American doctrines of tactics and logistics are generally sound. No serious defects in materiel or transport have been revealed by operations in NORTH AFRICA. The three pieces of American equipment most desired by our allies are the .50 caliber machine gun, the quarter ton "Jeep", and the 105 mm howitzer. Because of differences in training and vocabulary, organizations of different nationalities should not be mixed in tactical units smaller than the Corps; such mixture of nationalities lowers the combat efficiency both of troops of our allies and of ourselves. The greatest deficiency lay in the almost complete lack of air-ground cooperation. Training of combat troops observed had been sound and thorough and leadership observed was of a high caliber.

6. Recommendations.

a. .50 caliber machine gun furnished infantry and artillery units should have either a combination air-ground mount or a mount to enable it to be used against aircraft in addition to the present mount.

b. M9 antitank grenade should be discarded in favor of M9A1.

c. A carrying vest should be furnished medical troops to include aid stations and collecting companies. An improvised one is pictured herein.

d. Thompson sub-machine guns should be furnished troops for night patrolling as they continuously use them with Combat Team 18 and quantity of them is not sufficient.

e. Some type of high angle weapon within the platoon would aid greatly, such as a rifle grenade.

f. The British Compo ration is a superior article and with American food therein should be adopted by our Army.

g. The British method of running what is similar to an American service station for maintenance of motor vehicles should be adopted. This has been done in Combat Team 18 with success Also the British method of traffic control and supplying of bivouacs and gasoline should be studied as it is very efficient.

h. The present officers belt is not used in the front line and should be replaced by a carrying vest or an enlisted man's light pack.

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HEADQUARTERS
ARMY GROUND FORCES
Army War College
Washington, D.C.

[redacted]

By Auth: CG, AGF [illegible]

Date: 2/18/43

319.1/24 (Foreign Obsrs) (S) - GNGBI
(2-18-43)

February 18, 1943.

SUBJECT: Observer's Report.

TO: Commanding Generals,
Second and Third Armies,
III, IV, VII, VIII, IX,
X, XI, XII, and XIII Corps,
II, III, and IV Armored Corps,
Airborne Command,
Amphibious Training Center,
Antiaircraft Command,
Desert Training Center,
Mountain Training Center,
Replacement and School Command,
Tank Destroyer Center,
Chief of the Armored Force.

1. The inclosed report of Colonel James B. Taylor, Cavalry, Observer from Headquarters Army Ground Forces to North Africa, is furnished for your information.

2. Distribution to divisions has been discontinued by the Commanding General, Army Ground Forces. Reproduction and distribution of observers' reports to subordinate units is not authorized.

3. Changes in training doctrine as enunciated in War Department publications, which are necessary because of the information contained in observers' reports, will be published by the War Department. Changes in training directives of this headquarters, which are necessary because of information contained in observers' reports, will be promulgated by this headquarters.

By command of LT. GEN. McNAIR:

James D. Tanner.

JAMES D. TANNER,
Lt. Col., A.G.D.,
Ass't Ground Adjutant General.

10

1 Incl - Narrative of Observer's Tour
with WTF, French Morocco,
with 1 inclosure.

CLASSIFICATION changed to Unclassified
Authority War Dept AGAO 7452
By Catherine Faulkner

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UNCLASSIFIED

SUBJECT: Narrative of Observer's Tour with W.T.F., French Morocco.

TO: The Commanding General, Army Ground Forces, Washington, D. C.

1. In compliance with secret letter orders, AG 210.31 (11-29-42) PO-A, War Department dated 11-30-42 as amended 12-1-42 and secret letter orders, 220.3/267(S)-GNAGS (11-30-42), Army Ground Forces, dated 11-30-42, a party consisting of:

Col. James B. Taylor
Lt. Col. Lawton F. Garner
1st Sgt. Wilber Tidwell
T. Sgt. Edward F. Kimbrough
Sgt. Joseph Harris

sailed from New York on the Army Transport "Argentine" on Dec. 12, 1942 for Casablanca, French Morocco.

2. On the transport the sleeping quarters for the enlisted men were very congested. Every available bit of space was utilized for bunks. The men took their full packs and their "A" barracks bags into these quarters with them. There was no room for stowage. Barracks bags were hung from any available support and packed into every nook and cranny so as to leave the maximum room for the men to get to and from their bunks. These barracks bags greatly reduced the circulation of air in these cramped quarters, and were not available to the soldiers during the trip. They were not accessably stowed nor was there room to open them. They were not needed during the trip. It is recommended that the required toilet articles, one blanket and one shelter half be carried in the soldier's field bag or haversack, and that both the "A" and the "B" barracks bags be loaded in the hold. There is a delay of from one to three days after arrival before barracks bags are available to the men, but this delay is more than compensated for in the additional room and ventilation on the transport enroute.

3. This party arrived in Casablanca, Dec. 24, 1942.

4. Open hostilities in this theater had at this time been terminated for six weeks - since Nov. 11, 1942. During this interval each of the three subtask forces in this theatre had submitted to Western Task Force a written report of their activities in the landing. These reports were made available to this party and were studied. The reports were rather voluminous and incorporated many overlays. Extra copies were not available and no effort was made to duplicate them.

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5. The Commanding General, Western Task Force made an automobile available to the party, and published a travel order authorizing and covering the movement of the party through this theatre. The party then proceeded to the scenes of the various landings to walk over the beaches and follow through the subsequent combat and talk with people who had actually participated.

6. The first landing reviewed was at Safi. This landing was conceived in audacity and carried out with boldness to a brilliant conclusion.

The force engaged consisted of the major fraction of the armored elements available in this theatre. Their mission was to seize the port, unload the armored elements and proceed north with them to support the attack of the 3rd Division on Casablanca. This they accomplished.

The French forces misjudged the mission of this force and decided that this force would proceed east on Marakech. Accordingly they sent from Marakech a considerable force of tanks to oppose the movement. Contact was made east of Safi, the French forces withdrew to a row of hills and occupied a defensive position as darkness fell. When morning came our armored elements were far to the north on their way toward Casablanca. During the action west of Safi there was an interesting artillery duel between our 105's and French 75's. The logistics involved in the movement of this force to the north were very difficult and the solution offered was quite unusual.

The plan called for a movement from Safi to Casablanca, a distance of approximately 160 mi. and involved a river crossing (Oumer Rabia) which would surely be opposed.

The usual transportation for the hauling of ammunition, fuel and rations was not available. There was an intermediate port (Mazagan) 100 miles to the north where boats of shallow draft could be unloaded.

Consequently two naval destroyers were loaded with ammunition, gasoline, rations and the pontoon bridge (less trucks) and headed for Mazagan. The bridge trucks were loaded to escort the column. The force set out to (1) capture Mazagan, unload the destroyers, replenish their supplies and (2) force a river crossing and (3) proceed to Casablanca.

The column had arrived at Mazagan and the river when on Nov. 11th the armistice was concluded.

7. The second landing reviewed was that at Fedala.

This was the largest of the three sub-task forces and represented the principal effort of the whole. The mission was the capture of Casablanca and the port facilities there.

Difficulties beset this effort from the outset. There was some confusion in the rendezvous of the transports. Ships carrying some of the boats for the landing of the early waves were not in position. This necessitated last minute changes in plans of H hour.

The landing was made in the face of determined resistance and under a cross fire from the French coast defense installations at Point Fedala and Ft. Blondin. Unsuspected reefs in front of the beaches wrecked many landing craft. The surf rose and made any landing difficult. Inexperienced coxswains allowed many landing craft to broach and be destroyed. Several landing craft lost their way and discharged their passengers at the wrong places. The landing which was designed to cover a front of four miles, with its bulk on a front of two miles, had its extreme flanks landed 42 miles apart. A large percentage of the landing craft made only one trip to the beach and were wrecked. There was some lack of coordination between the troops which had landed and the supporting naval gun fire (notably at Ft. Blondin) which caused some casualties and delayed the capture of this objective.

In spite of these difficulties and coupled with the lack and loss of transportation, the landing was made as planned and the division reached each day's objectives as planned. At 7:30 A.M., Nov. 11th, when the armistice became effective the division was in position to jump off in the attack of Casablanca.

In his written report covering this operation General Anderson, the division commander said: "The mechanics of an amphibious operation involving landing on a hostile and defended shore are so involved and the problems so numerous that the probability of being defeated by the technical and physical difficulties that have to be overcome is as great as the probability of being defeated through enemy action."

In this same report, regarding signal communications he said: "Signal communication in this operation was far from satisfactory. The principal reasons for this are as follows:

a. Damage to radio equipment by salt water despite waterproofing measures; loss of equipment as a result of capsizing of boats on rocks off shore; and damage by enemy artillery and aerial attack.

b. Shortage of wire laying equipment due to limited capacity of transports and delay in landing what wire laying equipment was available.

c. Unsuitability of some of the radio equipment for displacement when transportation is not available, notably the SCR284."

In this same report, regarding control he said:

"The use of messengers, the constant visiting of staff officers of front line units, and the visits of the commander himself to the command posts of his subordinate units are the most reliable means of maintaining communications and control."

In conversation with this party General Anderson said that the principal lesson gotten from this landing was that for an amphibious operation there must be trained boat crews and that they must be trained with the unit which they are to land.

8. The last landing reviewed was at Port Lyautey.

The mission of this landing was the capture of the air field.

The bulk of the landing was made on the beach just south of the mouth of the river. Just back of this beach was a line of high sand dunes and back of the dunes was a lagoon about 4 miles long running parallel to the beach. Behind the lagoon the ground rose abruptly onto a long ridge. At the north end of the beach and the lagoon stood a French fort or Kasba. This Kasba was stubbornly defended. The seriousness of the lagoon as a tactical obstacle had not perhaps been fully realized. The plan was for part of the force to assault the Kasba directly and for others to gain the high ridge further to the south and turn north and outflank the resistance. The entire force was then to move to the northeast. In the convoy were several airplane carriers, on these carriers were several pursuit ships needed for the support of the landing operation. These ships could be launched from the carriers but could not again land on them. The early capture of this airfield was imperative.

The attack moved slowly, the fighting was bitter.

Twenty-five miles south of Port Lyautey was Rabat, the seat of the government. When the French got word of the landing at Port Lyautey they sent twenty or thirty old Renault tanks from Rabat to aid the local garrison. This force advanced directly on General Truscott's rear and arrived in the vicinity of the landing on the afternoon of the first day.

By this time seven light tanks from the 1st Bn 66th AR had been landed. With them were the battalion commander; one lieutenant, a platoon commander; and one lieutenant, an artillery observer. The tank guns had not been bore sighted and the radios were not working. General Truscott sent this group to oppose the French tanks and hold them off his rear. Contact was made and an engagement was fought for about 1½ hours. Ranges varied from 100 to 200 yds. Finally the French leader's tank was badly hit and the force withdrew. By the time the action was over, several more light tanks from the 70th Tank Bn. had been landed. General Truscott turned these over to Lt. Col. Semmes, the C.O. 1st Bn. 66th AR, to augment his forces. During the night 12 or 14 more light tanks from the 66th AR were landed. The tanks of the 70th Tank Bn. were detached from Col. Semmes to support the attack on the airfield. Col. Semmes had his radios adjusted so that they were working by dawn.

The second morning the French tanks returned and reestablished contact. They did not press an attack and were finally dispersed by naval dive bombers.

During this engagement one of our M-5 tanks got too close to a French tank and was knocked out by 37mm gun fire.

There was a report which I could not confirm of a French tank being knocked out by a rocket fired from our launcher.

The infantry attack was continued and supported by a destroyer which sailed up the river opposite the airfield. The airfield was captured.

9. After the visit to Port Lyautey the troops of the 2d Armored Division in bivouac east of Rabat were visited. Equipment which had participated in the operation was inspected and commanders and crew members were engaged in conversation.

10. The party then returned to Casablanca and was again received by General Patton. In summing up the operation he said, that had they been opposed by Germans they would not have gotten ashore.

11. The party left Casablanca by air Saturday, January 9th and returned to New York via Marakech, Bathhurst, Fisherman's Lake, Natal, Trinidad, and Miami, and proceeded by rail to Washington, D. C.

12. APPENDICES.

A. Notes from General Patton, Colonels Gay, Black and White.

B. Photographs (on file at Hq AGF).

JAMES B. TAYLOR,
Colonel, Cavalry,
AGF Observer.

1 Incl - Appendix A.

GENERAL PATTON, CG, WTF.

1. General.

Had the landing been opposed by Germans, we would never have gotten ashore.

2. Notes on the training and employment of the components of an armored division.

a. Infantry - Train in night attacks.

b. Artillery:

(1) Displace forward when enemy is 2500 yds away; maximum range 4000 yds.

(2) Area fire ineffective against tanks. Germans deliberately expose tanks to draw area fire and thereby causing expenditure of ammunition.

c. Engineers - Train in location and removal of mines at night. "I don't know how it is done - but find out and practice."

3. Typical scheme of maneuver for an armored division.

a. When contact is made, hold the point with infantry and artillery.

b. Turn a flank (at least 10 miles) with tanks, to hit hostile rear (not flank).

c. Leave perhaps two medium battalions with the pivot.

Note: Communication between the maneuver elements and the pivot is of utmost importance.

d. As the maneuver progresses push the attack of the pivot (infantry and artillery) to knock out antitank guns so that when the maneuver mass strikes, tanks from the pivot can go forward.

4. The German Attack.

a. The Germans, like us, attack down roads. Formation: Column of Platoons in line at 1000 yards.

b. Leading tanks fire from defilade at all buildings and all suspicious localities and reduce them by fire.

c. Artillery is well forward.

d. When solid resistance is met, the leading tanks side-slip. The fight is taken over by infantry and artillery and the maneuver is started.

e. Formation for maneuver: Column of battalions in line (slightly echeloned from the center - echelon not believed to be intended, but results from a natural tendency to drop slightly behind the guide).

f. Maneuver progresses slowly.

g. Then envelopment not as wide as we advocate comes in rather close and is aimed at the flank rather than the rear.

h. For the final assault, tremendous fires are massed. Vertical bombing followed by dive bombing (dive bombers to knock out artillery). Duration of bombardment about 45 minutes, terminating just at dusk.

i. Assault made at dusk:
(1) Proceed slowly;
(2) Infantry fire MG's while advancing;
(3) Everyone fires.

j. When the position is taken, it is held by infantry and artillery. Tanks withdraw quickly out of effective medium artillery range (4000 to 5000 yds.)

5. Miscellaneous.

a. Practice with launchers is very important. Get face masks and gloves. Maximum range - 150 yds.

b. Medium tanks must be able to fire at 3000 yds.

c. Light tanks have put out German Mark IV tank at 300 yds.

6. Should the 3rd AD come, they will bring only about 300 - 2 1/2 ton trucks. Present allowance of trucks is calculated to allow an advance of from 200 to 250 miles per day. In this theatre advances will run only from 4 to 5 miles per day. This greatly reduces the amount of fuel consumed and also allows shuttling of uplly trucks.

COL. H. B. GAY, CofS, WTF.

Four companies of M-15 (T-28) mobile anti aircraft weapons should be assigned to each armored division.

These companies will now be employed as a unit so there is no need for a battalion headquarters.

The companies should be assigned
1 to each artillery battalion (total 3), and
1 to the Division Trains.

This weapon as now issued has too high a minimum elevation. Minimum elevation should be at least 6 degrees to allow the employment of these weapons against hostile ground forces.

COL. PERCY BLACK, G-2, WTF.

1. Organization, training and attachment of Prisoner of War Interrogation Teams invaluable.

2. Should join in time to get acquainted with units (higher staff units).

3. Held at Prisoner of War concentration areas (not in regiments).

4. Throughout landing their information invaluable.

5. One man with Battalion Headquarters to select individuals for early interrogation.

- -

1. In any large theatre, trains must be escorted. German Army in Poland in 1939 - one armored car to each 10 trucks.

2. Useless to expect unescorted trucks to move in any large theatre.

3. Should trouble develop with Spanish Morocco, all trains must be escorted.

4. In present Tunisian front, Line of Communication is 250 miles long.

5. Small hostile parties cannot be held out of rear areas.

- -

1. Present anti-tank protection our Infantry inadequate.

COL. I. D. WHITE, C.O. 67th AR.

1. Watch property - check onto boat.

2. Don't turn in too much - now have three extra pyramidal tents which are a life-saver.

3. Be sure and have gold medal water heaters and watch them. Mine were unloaded. Now another unit which had none has many and mine are gone; I can't prove that they're mine. MARK THEM.

4. Make boxes for the stowage of ammunition - particularly for fuses, grenades and rockets, etc. If you don't provide containers, too much stuff will be loose on the floor of the vehicles.

* * * * * *

5. Sub-Machine Gun.
   a. Magazine must not be left loaded - spring gets weak.
   b. Blueing poor - have had to paint some.

6. Metal links on .50 Cal. ammunition rust.

* * * * * *

7. Extreme importance of stowage lists and practice in stowage.

8. Trailer for ambulance half track - trailer can be dropped and aid station established and which can go on for ambulance service.

9. Quarter-ton trailer (like Infantry) for (a) Surgeon's 1/4 Ton, (b) Radio repair.

* * * * * *

10. Value of motorcycle very doubtful. Had none in the landing teams. 1/4 ton trucks invaluable.

* * * * * *

11. Need blackout tent big enough to go over a tank for maintenance. Otherwise, the most available maintenance time is lost.

12. Radios are OK - 193 old dependable.

13. Cleaning and preserving materials.
   a. All you can get.
   b. Particularly RAGS.
   c. Brushes and small brooms for vehicles and engines.

OFFICE OF A. C. OF S., G-2
ARMY GROUND FORCES
Army War College
Washington, D.C.

319.1/10 (Foreign Observers)(C)-GNGBI (2-20-43)

February 20, 1943.

SUBJECT: Observer Report.

TO: Assistant Chiefs of Staff, G-2,
Second and Third Armies,
III, IV, VII, VIII, IX,
X, XI, XII, and XIII Corps,
II, III, and IV Armored Corps,
Airborne Command,
Amphibious Training Center,
Antiaircraft Command,
Desert Training Center,
Mountain Training Center,
Replacement and School Command,
Tank Destroyer Center,
Armored Force.

1. Herewith Appendix II, unabridged, of the observer report of Lt. Colonel Thomas A. Seely, Infantry, which is furnished for your information.

2. Reproduction of this document is not authorized.

G. R. Carpenter
G. R. CARPENTER,
Colonel, G.S.C.,
A. C. of S., G-2.

1 Incl.

CLASSIFICATION changed to
Unclassified
by War Dept AGAD 1952
by Catherine Freiberg

APPENDIX II

Remarks of G-2, Center Task Force, Oran, Algeria, December 30, 1942. Remarks based upon Army Ground Forces' Questionnaire. Officer making remarks: Lt. Col. B. A. Dickson, G.S.C.

1. In general, combat intelligence training is considered to be satisfactory. Preparation in this field is better than for any other phase of intelligence or counterintelligence work. The greatest defect that has been noticed in the operation thus far has been due to the fact that personnel selected for intelligence section has not always been trained for the job, while many who had been trained for this work were placed in other sections. It has also been noted that lack of coordination with other staff sections has been directly traceable to lack of thorough understanding on the part of the other sections of the duties and responsibilities of the intelligence section. A lack of personnel trained in foreign languages and foreign procedure has been a big handicap in this theater.

2. During operations, normal procedure is used to obtain, evaluate and disseminate enemy information, with variations. For instance, in a landing operation the sources of information are limited, due to the lack of ground reconnaissance and because signal communications are considerably limited by factors that cannot be foreseen. Air reconnaissance is also limited by availability of planes, landing fields, weather conditions, and often by limited radio communications. Interrogation of prisoners of war and examination of captured documents is, at best, a slow procedure and does not come into full use early enough in air operation. This is due to lack of personnel. Radio intelligence agencies should immediately be made available to G-2. Liaison officers in 1/4-ton trucks should be freely used.

3. The handling of prisoners of war follows standard practice with the exception that personnel for the purpose of P/W escort and the guarding of enclosures has been inadequate, causing variations which would normally not be followed. CTF units were not supplied with interrogators in spite of efforts of G-2 to secure qualified personnel. If and when such personnel becomes available, it will be attached to subordinate command echelons as a given situation may require. Ordinarily, two interrogation teams will operate in the Corps P/W enclosure.

4. All units contacted have CS systems, but many have been unsatisfactory due to lack of proper instruction of current S-2 officers. Officers of the G-2 Section are making a point of contacting every unit and insuring the establishment of an appropriate system. The CS system, as set up in TM 30-205, is unsatisfactory for use by field troops, whether actually in the field or in base camp. It simply will not work because of lack of continuity and control. Much confusion has existed because of an attempt to follow the manual. Adoption of the following simple regulations would obviate all difficulty:

a. One operative per 30 men.

b. All instructions and reports follow intelligence channels within a command, whether a battalion or a division. No instructions are received on reports given except through channels.

c. All instructions and reports below battalion must be oral. From battalion to regiment they may be written. From regiments and separate battalions to the next highest headquarters and up, they must be written.

d. Every regimental or separate organization S-2 must be interested in coverage and allowed a certain latitude in obtaining results.

5. Counter-intelligence Corps personnel supplied are individually adequate to perform the missions required as far as technical training, experience and initiative are concerned. Personal observation and experience during the operations in this theater and during the subsequent period bring forth the following comments and recommendations:

a. Languages: Closer control should be exercised at Washington to insure that agents having the proper language qualifications be sent to the proper theater. Present in North Africa is a special agent who was brought up in Brazil and speaks the language like a native. His only value here is the ability to converse, with difficulty, with elements of the population of Spanish origin. At the same time, I am informed that special agents, speaking only French, are employed in Brazil. Of a detachment of seven officers and 20 men attached to the CTF (the only ones available to ETO) only two officers and two men could handle undercover work among the native population. It is suggested that control at Washington is the only way to obviate the difficulty.

b. Combat Intelligence vs Counter-Intelligence. Too few officers of the United States Forces have any idea of the functions and duties of CIC personnel, and commanding and staff officers who are directing CIC activities or who could be assisted by the CIC apparently do not know that such a thing exists. In addition, in foreign countries, a large burden of counter-sabotage and counter-espionage work falls on the CIC. These matters cannot be successfully handled by combat commanders who have had little or no experience in this field.

It is recommended that a distinct separation between combat intelligence and counter-intelligence be emphasized. Combat intelligence should be understood to include, besides enemy order of battle, terrain studies, enemy capabilities, etc., field security, by which is meant cover, concealment, camouflage, safeguarding information, securing of access to officers, installations, etc., subversion and disaffection within the command. Counter-intelligence should be understood to include counter-espionage, counter-sabotage, investigation of subversion on request of a field commander, inspections of security of installations and safeguarding of military information.

After the responsibilities are thus clearly defined, CIC personnel should be controlled by the highest echelon within a theater, making their

reports to the highest echelon. Detachments may be made available to a task force commander, or as far down as a corps, but only for informational purposes if the commander requests information on any subject. In the event of attaching a group, their instructions are from and responsibility is to the highest echelon. Only in this way can the CIC hope to combat espionage and sabotage within any area, since it is necessary to centralize knowledge of the situation, control and liaison with the highest civilian authority because the question of security involves questions, sometimes delicate, of politics and civilian subversion, and demands readjustments of broad policies and replacement of powerful civilian officials.

c. Equipment. Emphasizing the situation of the CIC as an "orphan" without proper recognition isthe apparent impossibility to obtain suitable equipment in the form of badges, guns, listening devices and cameras.

6. It is believed that combat counter-intelligence is fully emphasized in training and is practiced in actual operations progressively better as the need for this training is recognized by the troops. Unforeseen problems that have not been emphasized in training are being corrected as they arise. For instance: mess kits and ration cans, carelessly handled, called enemy airmen's attention to location. This carelessness is corrected after one enemy attack at meal time.

7. The majority of aerial photographs were furnished and processed for this operation during its planning phase by the RAF Laboratories. British interpreters of aerial photographs gave United States Forces these photographs with interpretations attached, in limited quantities. During actual combat, the situation, if successful, moves faster then the processing and interpretation of aerial photographs.

8. During the training phase for this operation, aerial photographs were used, as map substitutes were limited. Units prefer to use maps when available.

During the actual operation, maps were used almost exclusively, due to the poor quality and scarcity of aerial photographs.

During the planning phase, aerial photogrephs were used to confirm locations of shore batteries, etc. During combat, aerial photographs were not used for this purpose. In case of a longer operation, it is believed that aerial photographs would be of real value in determining hostile dispositions.

9. No schools were conducted by Corps for the interpretation of aerial photographs overseas. However, previous training had been given in the States.

10. The supply of maps in this theater is adequate for the operation and subsequent to the operation.

11. The following scales of maps were used:

1:1,000,000
1:500,000
1:200,000
1:50,000
1:10,000 (Town Plans)

Mosaics 1:15,000 were available but were not used. The printing on these mosaics was of poor quality and barely readable.

Photographic strips and obliques of the coast and essential terrain features were used and were quite helpful.

Plastic models (similar to sandtable work) were made of the landing beaches of sufficiently large scale to give details of the terrain. These were most helpful.

The maps used were British maps. The largest scale maps available were 1:50,000. For a war movement, these are sufficiently large, but are unsatisfactory for artillery firing.

12. The distribution of maps for this operation was affected in the following manner:

a. Coverage and quantities of maps were prepared by the G-2, CTF.

b. A scale of distribution was figured on what was thought needed and map distribution tables in FM 30-20 used only as a guide.

c. Distribution was peculiar, in that the maps for a unit were prepared in sealed bundles by SOS from orders given them through the Corps Engineers, and loaded in the ship on which that unit was to travel. The Corps Engineer Map Officer supervised closely the loading to prevent any mix-up. Instructions were given to the Commanding Officer of troops on each ship that the maps were not to be distributed until after the fourth day at sea. (This was for security reasons so that in event any ship had to turn back, general knowledge of the destination of the convoy would not be known until the convoy was well under way).

d. For use after arrival and establishing ourselves, orders had been prepared and complete coverage of the areas involved were to be delivered in quantities by convoys arriving subsequent to D day.

e. The Engineers began to establish a map depot immediately, the initial stock consisting of the surplus maps on each combat-loaded ship. On D-3, a convoy brought in a duplicate stockage in larger quantities. Successive convoys brought large supplies of general coverage for depot stocks.

f. Normal means of distribution, as prescribed in Section VIII,

FM 30-20, are now used. Requisitions are filled according to stocks available and needs are not entirely governed by set tables. Some series have to be rationed, depot stocks of other series are adequate to fill orders as requisitioned, provided they are reasonable and not in excess of normal allowances.

It is recommended that:

(1) A few maps of intermediate or small scale of areas, probably to be used in the future, be available early for use by the staff.

(2) A geography or atlas of the world be available in G-2 Sections. Need for this was found to be great.

(3) A greater supply of 1:50,000 scale maps be provided for all possible areas. This scale proved to be most useful during the operation.

- END -

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HEADQUARTERS
ARMY GROUND FORCES
OFFICE OF AC OF S, G-2
Army War College
Washington, D.C.

February 25, 1943.

MEMORANDUM FOR ALL GROUND GENERAL AND SPECIAL STAFF SECTIONS,
HEADQUARTERS ARMY GROUND FORCES.

Subject: Lessons Derived from Operations
at Casablanca and Oran.

1. Herewith a Summary of Lessons Derived from Operations at Casablanca and Oran November 8 - 11, 1942, which is furnished for your information and such action as you deem appropriate. The data contained herein was obtained by two AGF observers from reports being prepared by the headquarters of the Western and Center Task Forces after their respective operations in North Africa.

2. It is requested that this section be informed of action taken.

For the AC of S, G-2:

C. P. BIXEL,
Colonel, G.S.C.,
Executive Officer, G-2.

1 Incl.

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~~RESTRICTED~~

Summary of Lessons Derived from Amphibious Operations, November 8 - 11, 1942, at CASABLANCA and ORAN.

To date, several reports have been submitted on the military operations in the ORAN and CASABLANCA areas by individuals who were detailed to observe certain specific phases or units involved. The following observations, comments and recommendations have been compiled from official reports submitted by the participating troops themselves, and are believed to be more conclusive than those based on limited opportunities of individual observers primarily interested in a specific rather than a general subject.

G-1 and AG

WESTERN TASK FORCE:

1. In the absence of Army graves registrations personnel, detailed plans and instructions to combat units who had to assume the responsibility were inadequate. Sufficient graves registration personnel should accompany the assault echelon. Where this is impossible, this function should be delegated to units of the assault echelon, who should be thoroughly trained for such service.

2. Insufficient administrative personnel, and in some cases none at all, accompanied the advance echelon. This made reports incomplete and late, and since, in many cases, proper records were not kept, it was almost impossible to reconstruct the necessary reports. Sufficient administrative personnel must accompany the assault echelon to assure that correct reports are submitted. This is of greatest importance from a tactical as well as an administrative point of view.

3. Detailed instructions on administrative procedures were not completely understood and in some cases were not disseminated to the smaller units. Clear cut interpretation of the requirements of all reports, regardless of how routine and obvious they may seem, must be established by the highest headquarters to which they are submitted. These instructions must then be disseminated down to and including the smallest units from which reports are required. To protect secrecy it may be necessary to issue these in sealed envelopes to be assimilated aboard ship. When possible, however, it would be more advantageous to hold joint discussions with the personnel concerned.

4. Lack of approved Tables of Organization or Tables of Allotment of grades and ratings prevented promotion of deserving personnel. The Commanding General should be authorized to give temporary approval of Tables of Organization and grades and ratings for special units, pending final approval by the War Department. This should also apply where Military Areas and Districts are established subsequent to actual hostilities so that personnel should be assigned to these functions. This will permit

parent organizations to drop such personnel and replace them by promotion and transfer. It is believed this would also create a very good effect on morale.

5. Delay in award and presentation of decorations and citations caused excessive paper work in tracing individuals, verifying facts and securing necessary certificates. A digest of current Army Regulations, War Department circulars and Task Force policies on awards and decorations should be disseminated to all administrative headquarters prior to debarkation. This must specifically establish the administrative requirements in connection with the award and the presentation.

6. Confusion in preparing safe arrival cards and lack of positive instructions for this dispatch resulted in a lowered morale among the troops. It is recommended that safe arrival cards be filled out in Staging Areas and mailed as soon as the Task Force arrives at its destination. While later reports will show that certain individuals were killed in the landing operations this policy would nevertheless work to the benefit of the majority. If safe arrival cards are withheld until casualties have been verified it would be better to discontinue the use of safe arrival cards entirely.

7. Insufficient personnel and communications delayed delivery of mail both to and from the UNITED STATES. A thorough understanding of censorship requirements should be disseminated to all troops so that recensorship would not be necessary. Careful planning and the use of machine records in advance of operations should speed delivery of mail to troops after arrival. It is felt that an APO number could safely be given out before departure from the States since units on maneuvers within the continental limits also use an APO.

CENTER TASK FORCE:

1. Prisoner of War Escort Companies must be provided in troop lists of units to participate in operations as Corps and Division Military Police Companies are not organized in such manner that they can operate as Prisoner of War Escort Companies. Control of Prisoners of War is of grave concern during operations, and this method of control should not be overlooked. An Engineer Company was used during the operation to handle Prisoners of War. This company was not properly organized nor properly trained to handle Prisoners of War.

2. Graves Registration units on the basis of one company per Corps should be included in lists of units to participate in an operation. This unit can maintain accurate records of the deceased and location of graves. The duties performed by Graves Registration units should be removed from responsibilities of combat units. This removal of such responsibilities is possible only through including Graves Registration units in the operation. No Graves Registration units were included in assault convoy because of limitations on shipping. If space is available, it is desirable to include such a unit in the assault convoy.

3. The G-1 plan for the operation was incomplete in that it did not provide in detail for the early establishment of Civil Administration. Likewise, planning did not include the method, type, and quantity of billets to be requisitioned in towns. This was particularly true in ORAN.

G-2

WESTERN TASK FORCE:

1. Without a Table of Organization, Counterintelligence, Censorship, Prisoner of War Interrogation and Interpretation Sections have no means of procuring or replacing either organizational or personal equipment.

2. Broadcasting equipment is considered essential for a Task Force Headquarters.

3. Ample transportation should be provided for counterintelligence personnel.

4. Officers who are not highly trained in the tactical doctrine, organization and equipment of our own army, or who have not had extensive duty with troops, are of little value to the G-2 section.

5. Divisional staffs should be trained in the proper use of special intelligence sections such as Counterintelligence and Prisoner of War interrogation groups.

6. Prisoner of War interrogator teams should receive special training at Military Intelligence Training Center in the identification of enemy units, enemy organization, armament and equipment. These teams should be assigned to a Division in sufficient time to receive training with the Division prior to its departure overseas, and to become familiar with the personnel of the Division with whom they will operate.

7. G-2 personnel should be trained in intelligence methods and staff procedure of our Allies for combined operations.

8. Special liaison personnel should be provided for any combined operation so that tactical staffs will not be reduced by the necessity of furnishing liaison officers.

9. In order to reduce duplication of effort all intelligence activities should be placed under the direction of a single Army, Navy, and Air Intelligence Officer. An intelligence section should be so trained as to insure that mutual flow of information within the section is normal.

10. In landing operations it is essential that Prisoner of War in-

terrogators and Counterintelligence personnel be included in the initial wave.

11. The absence of approved Tables of Organization for Prisoner of War Interrogation Teams, Counterintelligence and Censorship personnel, has proven a distinct handicap, absolutely preventing the promotion of deserving individuals or replacement of personnel. It is recommended that the T/O for a Task Force Headquarters, now approved by the Chief of Staff as a guide only for limited distribution, be approved as standard and that similar tables be prepared for a re-enforced Corps operating alone.

12. Military interpreters are essential for troops operating in a foreign country. Civilian personnel employed locally as interpreters cannot be adequately checked for security nor can take the place of officers who must act as liaison officers as well as be able to negotiate with officials of the country in which they are operating. Prisoner of War interrogators cannot perform these duties as well as those of interrogation.

13. It is also essential that Counterintelligence personnel and Censorship personnel speak the language of the country. It is particularly important that Counterintelligence personnel be selected for general background rather than for police experience.

14. A Psychological Warfare Unit such as the unit under experiment at Fort Monmouth which combined both the personnel and material necessary for Propaganda and Public Relations would have been of extreme value. The radio set installed on the USS Texas by the Signal Corps and operated under control of G-2 was extremely valuable during landing operations, but could not be disembarked.

15. Ground personnel trained in the tactical interpretation of aerial photographs should be included in the Air Corps photo interpretation sections.

16. Under no circumstances should a Command Post of a combined force be placed on a Man-of-War having a combat mission.

17. Corps and higher headquarters should be provided with a translation section familiar with enemy military terminology.

18. In the future planning and execution of operations, it is recommended that:

a. Security control be established coincident with the initial planning of an operation.

b. A suitable Command Post with necessary guards, clerical personnel and telephones be established before a tactical staff is brought to Washington or other central planning center.

c. Map reproduction be commenced far enough in advance so as not to endanger security.

d. Reproduction facilities for the reproduction of photographs, charts and literature, be established completely under Army control.

e. All identifying insignia be removed from personnel and vehicles of tactical staffs and vehicles brought to WASHINGTON or other central planning center.

f. Greater care be exercised in telephone conversations, especially long distance calls.

g. Current data, such as the M.I. Surveys and I.S.I.S. be reduced by the M.I.S., War Department, to the essential information required by the staff sections in a form which may be issued to troops.

h. Terrain photographs of possible objectives as well as aerial photographs be utilized whenever possible.

CENTER TASK FORCE:

1. For any amphibious operation which is to take place in an area where a foreign language is spoken, special needs for interpreters must be anticipated. Teams should be organized and trained prior to embarkation, so that during actual operation, each task force and sub-task force headquarters will have this personnel available. There were not sufficient interpreters for this operation. Each task force headquarters and sub-task force headquarters should have at least two officers and six enlisted men to act as interpreters. This personnel should have a good military background.

2. Improper use was made of the 128th Signal R.I. Company. In future operations G-2 must assign missions direct to this type unit. In this operation it is believed that the facilities of the company were wasted because of poor loading plans and because G-2 failed completely to assign it missions.

G-3

WESTERN TASK FORCE:

1. When an operation of this type is decided upon, the task force commander should be assigned his mission, and forces allotted at least six months prior to the execution of his mission. He should be the supreme commander, and the Navy and Air commanders should be members of his staff, with power to provide the necessary personnel and equipment needed for both the combined training and execution of the mission. The force allotted should be quickly assembled into a training area suitable for

field work and in proximity to the area suitable for the amphibious training. The ships required for the sea passage and landing should be available at an early date after the arrival of the force in the training area. A continuous program of loading and beach landings should be carried on to provide a thorough training of landing craft crews, shore parties, sea scouts, ship-to-shore communications, naval gun fire support, aircraft support (carrier-based) and air-ground support parties.

2. After the plans of subordinate commanders for their respective attacks have been approved by the Task Force Commander, based on his directions, repeated maneuvers embodying ship-to-shore-to-objective must be carried on until they approach perfection in timing and execution. Maps of the actual objectives, with deleted names (for secrecy) must be provided for the planning of all commanders to include platoon. When, after embarkation, the actual map of attack is issued, all will be familiar with their sectors.

3. Mistakes, ommissions, and suggested corrections.

a. Less than three months elapsed between the assignment of the mission to the Task Force Commander and the landing on a foreign shore. During that period the plan and allotment of forces available was changed several times, necessitating a serious delay in crystalizing the plan of attack.

b. This delay in "fixing" the forces available made it impossible to assemble the force for combined ground training. Supporting air, either naval or army, was never available for the few landing exercises that were held.

c. In many cases units arrived in training and staging areas just prior to embarkation. The sub-force commander had no opportunity prior to sailing to train or evaluate the units which he was to lead ashore.

d. Some staff sections were not furnished with their allotted quota of officers and enlisted men until shortly before departure. The result was that these new arrivals were of no value to such sections which had no time to initiate the new arrivals into the operation.

e. Units allotted should be filled to their T/O strength and officers and non-commissioned officers should not be transferred out of the force. There is never sufficient time to "break in" new leaders.

f. The Task Force Commander and the Naval Force Commander should not have their joint headquarters on a naval vessel that may be required as a unit in a naval engagement. Such was the case in this operation, resulting in the cessation of shore-to-ship and ship-to-shore communication with landed Army units. The Army commander must have adequate channels of communication to his immediate subordinate elements entirely independent of naval requirements.

g. Combat lighters were not available to the TQM's, with few exceptions, until shortly before sailing date. Ship specifications were in gross error as to both personnel and vehicle capacity.

h. The present combat lighters carry too few landing boats, necessitating a very complicated plan of such landing boats from ship-to-shore-to-other ships to complete the successive assault waves. If new type combat lighters are not built which will provide the unloading of each ship by its own boats, then additional ships carrying only landing boats and crews must be included in amphibious operation convoys. Such would not only help the problem of providing the required boats for assault waves, but would provide a reserve for the boats that remain on the beach stuck or destroyed.

i. Navigation, by ship captains, to assembly areas was faulty, in one instance five miles from the transport area and also entirely too far off shore. Many ships in the FEDALA landing force were entirely out of position at the time set for loading the boat waves, necessitating the revamping of the boat employment plan in order to carry out the mission of Battalion Combat Teams for arrival on their beach at the appointed hour. This caused a delay of forty-five minutes in their assigned hour. Transports should be moved in-shore as rapidly and progressively as possible, as the shore assault reduces the effect of enemy shore batteries, and shortens the time lag of reloading returning landing boats for successive waves.

j. Ship crews were in some instances poorly trained, and coxswains were as a whole very green and inexperienced in handling landing craft under surf conditions.

k. Landing Craft Commanders erred in their navigation to beaches and in two cases this proved extremely disastrous.

l. Naval gun fire should not be fired on pre-arranged time schedules except as a shore barrage previous to any troops landing. Naval gunfire missions should be "on call" from naval gunfire support parties.

m. Training of such Task Forces should include subjecting troops to naval gun support and overhead artillery and machine gun fire. The necessity for including such training was made apparent in this operation. Troops under overhead naval gunfire became confused and stopped through inexperience when subjected to close-in bursts.

n. Daylight landings are too costly and will be successful only against weak or no opposition, although landings before daylight entail much difficulty in loading landing boats and navigation to beaches, it assures surprise and reduces casualties.

o. Ground training must provide the maximum of night problems to effect confidence in clearing the beach and regaining lateral coordination in the assault of the objective.

p. Troops in the assault waves of an amphibious operation should go in with light equipment in order to move rapidly across a sandy beach and continue forward in extending the beach-head. The present field equipment is much too heavy to permit rapid movement over any prolonged period and too bulky to permit proper use of life belt.

q. Incendiary bullets, fired by attack aviation, were more effective than bombs against motor columns and grounded aircraft.

r. In some cases new type weapons, such as the Launcher, Rocket, M-1, were delivered to units during the final loading. Intensive effort was made to familiarize units so equipped en route, but the powers and limitations of such weapons were actually unknown until tested in combat. Machine guns were received on the dock improperly or faultily assembled and failed to function in combat.

s. The failure of motor equipment with radio installed to arrive until loading was in progress, with the necessary "radio silence" en route, made it impossible to test such radios, resulting in many failures upon arrival ashore.

CENTER TASK FORCE:

1. It is essential that planning staff (preferably small) be given a clear cut directive as to the object and scope of the operation at the earliest practicable time.

2. The uncertainty which existed in September as to the amount and type of shipping to be made available to the Center Task Force for this operation made it difficult to plan the troop basis, or even the operation itself. It would appear advisable in the future to approach an operation as follows:

a. Determine the troops and equipment considered essential to do the job.

b. Make decision as to whether or not shipping to transport required troops and equipment can be made available.

c. If shipping is to be made available, plans should be continued to include desired order of arrival and debarking of troops and equipment.

d. From the above, prepare detailed loading and unloading tables for assault and follow-up convoys when exact shipping to be made available is known.

3. Although this operation was highly successful, it must be remembered that a large part of this success was due to excellent weather, lack of organized resistance at the beaches, and the poor state of equipment of

French troops. The British system of combat loading which placed unit personnel on one ship, with unit equipment on several other ships, is not considered satisfactory. Had determined resistance been met at the beach, it is believed considerable difficulty would have been experienced in landing troops and equipment in the proper amounts at the right places. The British system of combat loading amounts to "Convoy Loading by Beach" in American terms. For future operations it seems desirable to combat load all troops of the assault convoy. By combat loading is meant the placing of a unit and its equipment on the same ship.

4. In all future planning it is believed that the use of Armored Units should be stressed. The coordinated use of Infantry and Tanks permits maximum exploitation of surprise or early success. Also the psychological effect on the enemy caused by the early appearance of tanks cannot be over-emphasized. It is further believed that the inclusion of tanks where practicable will minimize casualties and reduce the time required to reach objectives. Special types assault craft to transport large numbers of tanks, anti-aircraft guns, artillery, and other vehicles must be made available. For anything except a beach of extremely steep slope (1 to 24 or steeper) the present "Maracaibo" type ship draws too much water (7 ft. at the bow). In unloading these ships in the ORAN area, pontoon bridging was used, but this was an expedient which would not have worked except in a calm sea.

5. It is believed parachute troops can be safely transmitted long distances with a reasonable chance of arriving over their objective at the scheduled hour. Parachute troops should be used for destruction or neutralization of important objectives which other troops cannot be expected to reach immediately. Examples: airdromes, ports, centers of communication, etc. Operations of parachute troops must be coordinated with those of air and ground forces. To obtain surprise, H Hour should be same as for other assault elements.

6. It appears certain that in an amphibious operation the approach and initial assault of leading waves should be under the cover of darkness. Darkness gives protection during the most vulnerable part of the operation to the men in the assault craft. This protection more than compensates for the extra difficulty in locating beaches. Also, during the initial assault phase the confusion of attacking troops is offset by the chance of surprise. A reasonable time for an attack would appear to be three to four hours prior to daylight.

7. As a result of the operation, it appears certain that each light artillery battalion should be organized so as to include at least one battery of 75mm pack Howitzers. However, the inclusion of this special purpose artillery in no way eliminates the necessity for 105mm Howitzers being in position and prepared to fire at daylight.

8. All troops used in an amphibious operation should complete a thorough course in basic training prior to embarkation. The following training should be stressed: use of compass, scouting and patrolling,

cutting passage through barbed wire entanglements, reduction of pill box type of fortification, qualification and combat firing, pioneer work to include repair of bridges and getting vehicles through mud and sand, command post exercises with particular emphasis on signal communications and reports to be made to higher headquarters.

9. All units selected for the assault phase of the operation should be experienced troops, especially trained in amphibious operations. This training should include loading of personnel and equipment aboard ship, unloading of personnel and equipment from transports and M/T ships into assault craft, assault fire delivered from assault craft, and method of unloading personnel and equipment from assault craft.

10. During sea voyage, if it is of more than two or three days' duration, every effort must be made to keep troops in fighting physical condition.

11. Units to be used in the assault should be required to undergo a practice operation with the same type boats, landing craft, and equipment as contemplated for the actual operation. The exercise itself should be similar in nature and should be repeated as often as is necessary and time permits.

12. In each operation there is usually a specialized operation such as reducing particular fortifications or capturing certain critical areas near beaches. These missions can best be accomplished by Ranger or Commando units, or by picked combat troops who have been given special training. For any critical area not near beaches, parachute troops are best suited to effect its early capture.

13. It is believed that the very close cooperation which existed between Headquarters Center Task Force and Headquarters Naval Task Force during the operation was due to a complete understanding by commanders and staffs of the capabilities and limitations of each service, plus a broad overall understanding of the operation as a whole. The close association of members of this Command with members of the Naval Staff during the planning phase was largely responsible for the close cooperation achieved.

14. By agreement with the British Navy, Headquarters Center Task Force assumed command of all Army units as they reached the beach. This seems a reasonable solution. Requests for air support and bombardment from Naval vessels was made to the Naval command. Whenever it was humanly possible to do so, the requests were complied with and the support given was effective.

15. During the initial phase of the assault there was an undue amount of delay in loading personnel and equipment into assault craft. It is believed that this delay was due to the fact that neither British Navy Officers in the assault craft nor American Army Officers aboard transports were quite sure who should take the situation in hand. For future operations it is believed advisable to have a selected American Army Officer in each landing craft.

16. As a result of the operation, it seems clear that land based air support must enter the picture at an early hour. Otherwise, air superiority cannot be maintained. Most operations should, therefore, have as an important objective the seizure of an airfield. This field must be supplied quickly with fuel and lubricants, ammunition, bombs, communications equipment, and a limited amount of maintenance. These supplies must have a high priority and be fitted into the tactical plan, inasmuch as they must be unloaded with combat units and even escorted by combat units. Once the field has been seized and stocked, planes should be flown in without delay. Pilots must expect to be required to perform for periods longer than in other type operations.

G-4

WESTERN TASK FORCE:

1. Specific ships to perform a combat loaded mission should be selected and assigned to subtask forces as early as possible before S-Day, and not later than six (6) weeks prior to S-Day; and detailed ships' characteristics and plan data forwarded to the proper sub-task force commanders so that tentative loading plans can be made. As soon as practical after ships have been assigned, the Transportation Quartermaster for each ship should be sent aboard, whether or not the ship is at or near the port of embarkation, to check ship's characteristics against the tentative loading plan, and to check gear, numbers and types of landing craft, etc., of the assigned ships.

2. Transport Quartermasters should be furnished the cubage (cubic dimensions) and the weight of individual packages of 30-day maintenance supplies of all classes, and the overall cubic dimensions of all standard and special vehicles and other odd types of equipment, at least one month prior to S-Day, so that the loading plans can be definitely outlined as early as possible.

3. If authority is delegated to sub-task force commanders to make their own assignments of their units to their allotted ships, a limiting date, not later than three (3) weeks prior to S-Day, must be established by the Task Force Commander, after which no changes in assignments will be made in order that depots might have a minimum of two (2) weeks for properly making supplies with proper shipment numbers and consign and move them to the correct address at the Port of Embarkation. A berthing plan for ships, based on port facilities and the sub-task force organizations must be made as early as practicable after ships have been assigned to sub-task forces, in order that depots might forward supplies and equipment to the correct location within the area of the port's utilities.

4. At least one (1) month prior to S-Day of an initial combat loaded convoy, the Task Force Headquarters should establish a Task Force Liaison Headquarters at the Headquarters of the Port of Embarkation, to coordinate with the port and to supervise the execution of the embarkation

plan. Personnel assigned to such a headquarters should be thoroughly familiar with the plans of the Task Force Headquarters and with the facilities and operations of the port prior to the beginning of the execution of the embarkation plan. The Liaison detail should include representatives of G-4 (in command of detail) Adjutant General, G-2 (Security Officers) sections, and representatives of the Special Staff sections of supply services to include the Air Corps. Representatives of the G-4's of sub-task force commanders should also be included within this liaison detail, exclusive of Division Transport Quartermasters and individual ships' TQM's.

5. The general supply plan drawn up for this operation has proved sound. It is believed that it would have taken care of any situation that might have developed on shore. However, in view of the necessity of the Army to care for many hundreds of naval survivors from transports sunk off shore, for Class II supplies (clothing, blankets, etc.), the 50-day maintenance of Quartermaster Class II supplies could be increased by about 50 per cent.

6. The proportion of the G-4 section of Task Forces Headquarters accompanying the D convoy should have been much larger than that sent on this operation. A large percentage of the initial functions of such a headquarters, once beach-heads have been established, are G-4 functions and cannot adequately be handled by two officers and one non-commissioned officer.

CENTER TASK FORCE:

1. Landing craft can make more rapid turnaround by working direct with one ship rather than reporting to a central control each trip.

2. Sommerfelt track is not very satisfactory in sand, and needs continual maintenance.

3. Bulldozers are needed on the beach early.

4. Track laying vehicles are needed to move supplies from beach to initial dumps.

5. Establishment of a motor vehicle pool on each beach is a very satisfactory method of handling transportation initially. Pool needs maintenance personnel ashore with tools early to de-waterproof and render other maintenance.

6. Supplies, insofar as practicable, should be packaged so one man can handle alone.

7. Balanced packages of spare parts and tools should be brought ashore early.

8. Service elements of assault units should be landed as early as practicable.

9. Adequate shipping should be made available to build up motor transportation to T/BA promptly.

Anti-Aircraft

WESTERN TASK FORCE:

1. Multiple gun carriage T-28, E-1, half-track, is considered very effective against low flying planes and dive bombers. It was credited with 9 planes during this operation.

2. At time of receipt, two lock frames of 37mm gun were found broken. Subsequent firing broke others.

3. Loading trays were not all interchangeable.

4. Control cables from the central control box to the sighting mechanism are too short, causing the cables to bind, thus making the setting of leads difficult. Cables should be lengthened.

5. The adjustment of the equilibrators was difficult, probably due to the weight of the two added caliber .50 machine guns.

6. Position of the 37mm ammunition chests is such that rapid fire is difficult.

7. A shield should be provided for the gunners.

8. A light forward area sight should be mounted in the present sight telescopes. This would facilitate picking up the target; also firing, in case the central box control became inoperative.

9. For dual purpose AA and AT firing, the mount should permit a minus elevation of several degrees.

10. Spare parts were insufficient. One 37mm gun spare parts kit should be provided for each gun carriage and one spare 37mm barrel should be supplied for each platoon.

11. Approximately 15 of the 78 carburetor floats received have rusted through, putting the half-tracks out of service until the floats could be repaired by soldering. This repair increased the weight of the float and affected the performance of the vehicle. All carburetor floats should be of non-corrosive material.

12. Two half-tracks became casualties because of the shearing off of the short pinion shaft on the differential.

13. Much trouble was caused by leaking oil cooler gaskets, apparently due to poor machining of the castings. Oil leaks also occurred between the oil cleaner and the crankcase. Action should be taken to eliminate the cause of oil leakage.

14. Two timing chain housings cracked.

15. Some vapor locks developed. Fuel systems should be modified to eliminate vapor lock.

CENTER TASK FORCE:

1. Antiaircraft automatic weapons units should be among the first troops landed in order to furnish initial protection for the beaches. Sufficient motor transportation should be landed early to permit prompt movement inland to furnish initial protection for captured airfields or ports.

2. Accessories, special lubricants and spare parts, should always accompany the armament to which they pertain.

3. More rugged packing boxes should be furnished for the fire control equipment of automatic weapons batteries. Regular issue type which were used are not considered satisfactory.

Field Artillery

WESTERN TASK FORCE:

1. The panoramic sight bracket of the 105mm Howitzers is unnecessarily high, exposing the gunner to small arms fire.

2. The reserve ammunition, stored vertically along the sides of the body of the M7 carriage, extends above the side of the body, exposing the primer end of the rounds and making them vulnerable to premature discharge if struck by small arms fire or shell fragments. The side armor on present models should be raised by welding on a strip of armor plate; in new manufacture, the 10-inch cut-away on the sides should not be made. The sides were originally designed with this piece cut away to facilitate resupply of ammunition over the side. However, this advantage is outweighed by the disadvantages of the increased jeopardy to the Howitzer and the crew.

3. One 105mm Howitzer on M7 carriage was put out of action by having the forward end of the recoil cylinder punctured by small arms fire. An armor plate shield should be installed to protect the forward end of the recoil cylinder.

CENTER TASK FORCE:

1. For assault divisions in an amphibious operation, each light artillery battalion should have one or two batteries organized as 75mm pack batteries, the exact ration to be determined by the operation planned. Medium battalions should be brought in early, equipped with 105mm materiel replaced by 75mm pack batteries. Materiel for medium battalions should be brought in as early as shipping permits, as there is an early need for both types of artillery mentioned.

2. The battalion fire direction center should be established as soon as batteries are close enough together to warrant it.

3. There is early need for an air O.P. as well as a detachment of the Corps Observation Battalion for locating hostile batteries.

4. Accurate fuze setters must be issued 105mm units.

5. Shell, H.E., with fuze M-48, set for delay action, afforded good ricochet action.

6. A light armored vehicle is particularly useful for a forward observer.

7. Shell, smoke WP, proved effective against personnel, and also for screening purposes.

8. Accurate, durable, and uniformly manufactured graphical firing tables for appropriate calibers should be issued to all artillery units.

9. Artillery ammunition should be stored aboard ship vertically rather than horizontally, as the action of the ship during a long voyage tends to cause top layers of ammunition to crush lower layers when all are loaded horizontally.

Naval Supporting Fires

CENTER TASK FORCE:

1. Ships expected to give support must be kept informed of location of supporting troops.

2. Naval fire on a point target at long range cannot be expected to be very effective. (In one case, HMS Rodney opened fire on Fort du Santo at 32,000 yards. One hundred twenty (120) rounds of 16" shells, and one hundred eighty (180) rounds of 6" shells were fired. Seven (7) fell within the fort area.

Air Support

CENTER TASK FORCE:

1. Unit radio equipment of Air Support Parties must be combat loaded with the vehicles of the assault troops.

2. Radio equipment of Air Support Parties must be as mobile as the C.P. of the Combat Teams.

3. The Air Support channel may be utilized in the absence of other workable communications for Combat Teams to higher headquarters.

4. VHF radio equipment should be a part of basic equipment for each Air Support Party.

5. Fighter aircraft with cannon may be very effectively used in the absence of light bombers against armored vehicles and light tanks. This was demonstrated in the destruction by fighter aircraft of one complete unit of French tanks, which attempted a counter attack from the direction of SIDI-BEL-ABBES.

WESTERN TASK FORCE:

1. Any indications of lack of cooperation between the ground and air troops can generally be attributed to lack of knowledge on the part of many officers of these services as to the duties and responsibilities of their own service, and the duties and responsibilities of the other service.

Signal Corps

WESTERN TASK FORCE:

1. The quantity and variety of dry cell batteries required for radio sets create a very serious supply problem in landing operations. In such radio sets as the SCR-536, 511 and 284, where a single dry battery will last only from four to eight hours in continuous operation, the quantity of batteries required for each set soon becomes very large as the time of operation is extended. This problem may be alleviated by the adaptation of all similar sets to use a single standard dry cell battery, more extensive use of hand generators, more extensive use of vehicle storage battery power, the use of larger and more efficient, although heavier and bulkier batteries, design of a small, light, rugged storage battery.

2. Medium powered vehicle mounted radio sets should be provided with long antennas which can be set up to increase the range of the sets in non-mobile operation. The flat top antenna equipment provided in the SCR-193 is not adequate to cover all frequency ranges and equipment should

be provided in the SCR-299 for the use of a flat top antenna similar to that provided in the SCR-188. Attention should be called in instruction to the fact that the antenna loading unit on the transmitter of radio set SCR-299 can be by-passed to use a long flat top or doublet antenna.

3. Additional tuning units for radio set SCR-193 should be provided in limited quantities in the division and higher units so that these sets may operate in special missions with SCR-299 and SCR-284 on frequencies outside of their normal operating range.

4. There is a need for a telephone switchboard slightly larger than the BD-72, yet smaller than the BD-96. Switchboard BD-91 should be issued in replacement. It is believed that this board could be issued for the replacement of a larger number of switchboards BD-72 and for a smaller number of switchboards BD-96, with a consequent increase in operating efficiency and reduction in type of equipment.

5. A Parts Kit should be standardized for the installation of Radio Set SCR-193 in truck, ¼-ton, 4 x 4. This installation requires the use of a 12-volt ignition system, identical to that already standard in the truck, ¼-ton, 4 x 4, amphibious. Special installations of this type were used in this operation and have proved very satisfactory. Such an installation presents the best means at present known for getting a completely self-contained medium power radio set and transportation ashore.

6. A Parts Kit and instructions should be standardized for installation of Radio Set SCR-299 in car, half-track, M-5, or a similar vehicle. Such installations were specially made for this operation and proved highly successful.

7. When landing operations are contemplated in areas where commercial telephone facilities are available, equipment should be provided in signal units of division and higher headquarters for the repair and utilization of open wire and cable telephone facilities. Existing facilities can usually be repaired and put back in service for military use much more quickly than new lines could be constructed. This equipment should be carried even at the expense of field wire materials and equipment.

8. Message center personnel must be thoroughly instructed, and seasoned as a team, in message center procedure prior to the operation. A lack of thoroughly trained select personnel will render any communication system worthless. There has been a tendency to underman message centers, and the best fitted officers and men have seldom been trained in this work. The traffic manager and his staff in any civilian communication system are the key operating group of the system. Likewise, a well trained message center is the key to successful military communications. It must be large enough to handle its traffic without borrowing personnel from other communication activities. The grades and ratings allotted must be sufficiently high to attract and hold the best available personnel for this most important mission.

9. Operational experience has proved that seven (7) commissioned officers are required as a minimum to operate one echelon of a Corps Message Center in the field on a twenty-four (24) hour basis. If more than one echelon must be operated, the number of officers required will be increased accordingly. The normal corps operates at least two (2) echelons.

10. Radio net control stations of the Landing Force Command nets should not be on a battleship. In addition to the danger of losing such stations if a battleship is involved in a naval fight, each such engagement causes interruptions in radio channels. This is due to radio sets being sensitive and easily jarred out of adjustment, or even made unserviceable by the shocks of hits on the ship, and by the effect of the firing of the ship's own guns. The radios cannot operate during the periods in which the ship is engaged in battle.

11. Sub-task force communication personnel should come from the signal or communications unit of that particular force. Signal detachments from outside units, no matter how well trained, cannot be sufficiently familiar with the organizations they serve. Thus they lose the advantage of special training they might have had in landing operations.

CENTER TASK FORCE:

1. Signal units generally had troops who were barely beyond the basic training phase. Less than 25 per cent of some units were qualified in the specialist or team phase.

2. Signal units arrived in the theatre of operations with only about 25 per cent of their transportation, and at D plus 13 they still had only about 70 per cent of their transportation. This situation would have been very serious if any real opposition had been met.

3. Equipment was taken from units about D minus 30 for shipment. The units were taken without training aids and, since units were denied an opportunity to guard their equipment, it later was returned to them in active operations in a damaged or unserviceable condition.

4. Signal equipment was generally excellent, particularly as to SCR-536, 511, and 299, but was not available in time to give crews opportunity to become familiar with same. Lack of training was largely responsible for the almost complete failure of communications.

5. Radio, motor messenger and wire vehicles being loaded on ships separate from personnel resulted in serious delays in securing reasonably prompt communication from units ashore to command posts still on the ships.

Engineer Corps

WESTERN TASK FORCE:

1. Generally, engineer, individual and organizational equipment, was satisfactory. The advance planning included items to meet any eventuality. This naturally necessitated the inclusion of some items later found not to be needed under the conditions encountered.

2. Engineer supplies were combat loaded on a basis of a greatly modified 30-day supply of normal maintenance items. Packages were loaded not to exceed 100 pounds. This weight actually should be kept to a maximum limit of 75 pounds if manhandling is to be the only source of transportation.

3. No engineer material should be packed in either corrugated or cardboard containers. The present system of tacking packing slips on the outside of boxes is decidedly unsatisfactory. Slips are either torn off boxes or deliberately thrown away after unloading and before reaching the consignee, thereby leaving him with no knowledge of contents. It is believed that some system of box marking should be developed to identify numbered packing slips. A numbered copy of the packing slip for each numbered box should be forwarded to the Supply Officer who is consignee.

4. All organizational sets such as demolition kits, carpenter sets, etc., should be boxed complete and shipped as a unit.

5. The Commanding Officer of shore party troops should be a member of the staff of the Sub-Task Force Commander. This is essential since he must be assured of certain equipment and that essential personnel and supplies be loaded on the combat loaded vessels where they will be readily available during the landing operation.

6. The shore party commander and his staff should be put on the beach early in the operation in order to coordinate distribution of personnel between beaches, as well as eliminating particularly dangerous and impossible beaches.

7. In this operation each shore party company was allowed to take ashore two bulldozers. This number should be increased to at least three or preferably four per company. These vehicles proved invaluable in getting vehicles across the beach and up on ground where they could operate under their own power.

8. There were four amphibious tractors allotted each company. This number is sufficient but should not be reduced. These special vehicles were of great help in pushing broached lighters off the beach.

9. There must be more careful design of beach markers. Also, it is essential that beach markers and lights be loaded in transports where

they are readily available. During this operation the transport QM elected to store them where they could not be reached on the morning of the landing.

10. The Thompson sub-machine gun is an unsuitable arm for officers and non-commissioned officers of the shore party. It is impossible to work at times in surf three or four feet deep hampered by this weapon.

11. Wheeled vehicles and even full-track vehicles found difficult going in the soft, sandy beaches. The first boats should carry rope nets or strong woven wire so that the shore party could provide traction on the soft sand.

12. Too many types of maps were made, resulting in a voluminous issue to individuals and sections who found little or no use for most of the types received. Fewer types would lessen unnecessary work and duplication and would facilitate distribution. Some photo maps were of poor quality and the best use could not be made of them. Landing maps 1/25,000, prepared by the Beach Erosion Board were not used to any extent due to lack of planimetric and topographic details inland. Largest demand was for Tactical Map, 1/50,000, Road Map 1/100,000, and town plans. It is recommended that in future operations: cases and packages of maps should not exceed 100 to 125 pounds; sheets should be of uniform size; size should be such as fits presses of Engineer Topographical units; town plans should be provided in same quantities as tactical maps; photo maps should be provided at scales 1/10,000 to 1/15,000; air photos should be provided, one per company; road maps 1/100,000 should be provided, one per officer and one for each vehicle; General Staff sections should receive wide coverage, but individual officers should get same distribution as for normal troop issue.

CENTER TASK FORCE:

1. In the future planning and execution of an operation of this character a large proportion of the Engineer Section should be included in the forward echelon assault group to assist in the establishment of dumps, salvage, and repair operations.

2. Organizational equipment shipped with the kitchens should include filled five gallon water cans, so that water will be immediately available.

3. The addition of a 250-gallon water trailer to each kitchen would improve the distribution of water.

4. The tank trucks now furnished Water Supply Companies are the gasoline type, and are not rust-resisting water tanks.

5. For follow-up convoys, organizational equipment and supplies should be broken down so that the loss of one ship does not completely

cripple a unit, such as the loss of all the equipment of the only Dump Truck Company ordered to this operation.

Ordnance

WESTERN TASK FORCE:

1. Reports from various units connected with the landing operations disclosed that there were no functional failures with the M-1 rifle; that troops engaged in landing operations should be throughly trained in the care, cleaning and functioning of the M-1 rifle; troops which had oiled their rifles previous to debarking encountered difficulty with stoppages due to the combination of water, sand, and oil mixing into the mechanism of the rifle; 50 per cent of these stoppages could be prevented by further instruction in the care and cleaning of the weapon.

2. Results of inspection of 4096 helmets, steel M-1, show 405 were defective due to cracking of steel shell. Four general locations of cracks: two in front, one over each eye; two in rear, generally diagonally opposite those in front, extending upward from the brim to the crown. No indication of abuse or rough and unusual treatment. Helmets have been used as wash basins and seats by individuals. This use does not appear to be the cause of cracking, since many of the defective helmets had not been used for either purpose and were new in appearance and condition. No apparent defect in manufacture except that all cracks are in one or more of the above locations.

3. Many reports were received that dirt and sand on face of bolt of sub-machine gun, 45 caliber M-1 frequently prevented bolt from closing completely, thereby causing misfires. Sub-machine gun is an unpopular personal weapon due to its weight and the feeling that it prevents or handicaps individuals in performance of their duties. This comment was made by Military Police; officers on duty at docks and railroads; personnel carrying and operating crew-served weapons such as rocket launchers, M-1; combat officers; and staff officers.

4. The Launcher, grenade M-1, is reported to be essentially valuable against grouped personnel and crew-served weapons at ranges up to 100 yards. Duds occur when grenade strikes soft impact area. Tank ran over one grenade. Tank was stopped and abandoned. Four tanks hit at ranges of 50 to 100 yards. Three were abandoned, one withdrew. One accident in training has been reported. Due to improper care and cleaning, accumulated dirt caused tail assembly to bind. Grenade burst about 10 feet in front of firer, injuring four men. Water does not impair effectiveness of ammunition.

5. One hit with the Launcher, Rocket M-1, was recorded on a tank at 150 yards. Tank surrounded by dust and fire and withdrew. It is effective against personnel, a mortar crew being killed at 400 yards. Improvements recommended include carrying sling; protection for firer against burns from back-blast; ammunition carrying bags.

6. Mechanics should carry 15-20 pounds hand tools, light machine tools and inspection gauges on board transports. It is not contemplated that mechanics carry these tools when marching, but they should not be separated from them.

7. On medium tanks, M4A1, 15 per cent of old type fuel pumps failed in first month. Failure was due to faulty seal, loss of prime, galled vans and twisted shaft.

8. Organizational tools frequently did not accompany organizations, or were not unloaded by this port. Special repair tools were not available to maintenance units before departure.

9. Organizational spare parts were not supplied ordnance maintenance units before departure.

10. Organizational vehicles were rifled and detachable parts stolen en route.

CENTER TASK FORCE:

1. Although S.O.S., ETOUSA, was directed to issue to all units prior to sailing, full T/O and T/BA equipment and supplies, plus 45 days' combat maintenance, vital equipment, essential accessories, and necessary spare parts were not issued. This failure is believed due to the shortage of time. In the future it is believed advisable to require S.O.S. of any theatre supplying an operation, to submit an itemized list, at least ten days prior to sailing date, of all shortages it is unable to supply.

Quartermaster

WESTERN TASK FORCE:

1. It is believed that the present type field jacket is not lined with heavy enough material to give sufficient warmth. Lining should be material of about the weight of an army blanket.

2. The 5-gallon drum with handle for gasoline, diesel fuel, and water has been entirely satisfactory. The 55-gallon drum has likewise proved very satisfactory.

3. The thin, tin, square, 5-gallon oil cans in cardboard boxes have proven very unsatisfactory except when they were crated. They were frequently smashed in the rough handling received in unloading from ships and reloading on trucks and railway cars. Loss of oil in this particular type of container is estimated at 25 per cent. When crated in wooden crates, the loss was negligible.

4. The heavier cylindrical 5-gallon oil cans have been entirely satisfactory to date. It is recommended that this type of can be used to the exclusion of the square can. It is further recommended that a system of standard colors for the cans be used to designate different weights of oil as: yellow for SAE 10, green for SAE 30, red for SAE 50. This system is used in part, but should be used throughout.

5. Containers for Universal Gear Lubricant and Greases are satisfactory. However, great difficulty has been experienced in locating and segregating the small crates of grease, water pump, #4. It is recommended that the boxes of 12 or 24 one-pound cans be given a distinctive color marking, and that the cans of Universal Gear Lubricant be of a different shape or have a distinctive marking so that it will be readily recognized as lube and not oil.

6. It is further recommended that neither the refiner's name nor the trade name of the product be shown either on the sides or the tops of containers of oils and greases. This space can be better used for large, clear markings indicating contents. The refiner's name and batch number can be stamped or pressed into the bottom of such containers; this information is desired only when check on the quality is necessary.

CENTER TASK FORCE:

1. Packing of class I supplies is in general unsatisfactory. Recommend discontinuing use of cardboard where contact with water is probable. Recommend "B" ration be packaged complete in a single container of 5 rations each.

2. The British Compo ration is fine for handling; tasty, but monotonous to eat for any length of time.

3. Experience has shown that the "K" ration is packed better than the "C" ration for "over-the-side" use.

4. It is recommended that Class II maintenance factors be increased to meet the demand for replacements occasioned by the sinking of ships, delivery on wrong beaches, etc. During early stages initial issues are made, not maintenance issues.

5. Experience in this theatre for first thirty days showed that the 5-gallon per day 75 octane estimated consumption should be increased to 10 gallons per day.

6. Lack of laundry facilities and fuel to heat water has lessened life of clothing and equipment of personnel. No dry cleaning facilities were provided for.

7. Provision should be made for re-supply by issue or sales to officers and nurses whose equipment and clothing were lost as a result

of combat, ship sinkings, or otherwise. Sanitary supplies for nurses should be made available likewise.

Medical Corps

WESTERN TASK FORCE:

1. Medical equipment and supplies of medical units that accompany advance troops should be lighter in weight and made more portable by hand.

2. The present ambulance, 3/4-ton, 4 x 4, has not been entirely suitable for use on sandy terrain. Efforts should be continued to devise some type of ambulance of low silhouette and better traction.

3. Halazone tablets should be issued in sufficient quantity to last ten (10) days. Lister bags should be landed with troops not actually engaged in each fighting.

4. Collecting and clearing elements of medical battalions should be landed as soon as possible after beaches are secured.

5. All enlisted men of attached medical troops should be equipped with a lighter type of the present stamping device to imprint the data from the identification tag on the emergency medical tag.

6. Before ships of an assault convoy leave the transport area the Navy should furnish the Army Task Force Commander with accurate information governing casualties being evacuated by the Navy to the zone of the interior. This procedure is absolutely essential in order to record casualties in proper category of killed, wounded, or missing.

7. Some type of litter, such as the Stokes, should be provided on shore which will permit quick and safe transfer to the ship.

8. Blood plasma proved to be exceedingly valuable in the initial operations. In one instance it is estimated that at least twenty lives were saved by its immediate use when approximately 400 casualties were admitted to a clearing station during a two-hour period.

9. The type of electric hand lamp used by the Navy was found to be very valuable for use in Army medical installations. The following is suggested recommendation for the distribution of this type of lamp: two (2) per battalion medical section; two (2) per regimental headquarters medical section; two (2) per collecting company; six (6) per clearing company.

10. One-half (½) grain of luminal was given to each man debarking during the assault phase. A larger dose would be excessive for some individuals. Practically no seasickness resulted in the landing forces going ashore in landing craft. The half grain of luminal may have been

the deciding factor, although further experimentation is recommended.

CENTER TASK FORCE:

1. In planning of future amphibious operations, it is essential that some concessions be made to the medical service which are not normally necessary, such as: (1) Medical units must be given a high priority for going ashore following combat troops; (2) Organizational equipment must be combat unit loaded; (3) Medical equipment must accompany the unit ashore; (4) Critical items of medical supplies must be deck loaded and made available to medical troops ashore.

2. The medical equipment carried by the medical soldier is not sufficient for this type of operation and must be augmented by having medical personnel hand-carry additional supplies and equipment. This was accomplished in this operation by the use of "Vest Type Haversacks", and still was not sufficient in some instances.

3. Battalion and regimental sets of equipment must be augmented by hand-carrying of additional blankets, litters, splint sets, etc.

4. Evacuation and surgical hospital equipment is too heavy and bulky to be effectively handled across the beach. In planning amphibious operations, refrigerators and other heavy equipment should be left out and brought in later. The essential equipment should be combat loaded and critical items deck loaded and made available to the units ashore on call.

5. In many cases medical units had not seen the equipment they were to receive on the beaches. This should be avoided in the future if possible.

Chemical Warfare

WESTERN TASK FORCE:

1. It is recommended that a light weight gas mask, similar to the M-1 civilian mask with a light weight rubber of impregnated leather facepiece be developed especially for landing operations, to be carried enclosed in a vinylite or similar synthetic sack with a quick opening and closing arrangement to give ready access to the mask. The waterproof sack should be carried inside the carrier and should be usuable many times. A ten per cent combat replacement of these masks to be by combat loaded ships.

2. Landings should be made with impregnated protective clothing (wool or cotton, according to climate) worn by all ranks. Shoes should be impregnated shortly before landing. Such clothing protects the wearer against rain better than ordinary clothing; protects against vermin, and gives a high order of protection against possible use of gas by the enemy.

3. Ointment, protective, M-1, and Impregnite, shoe M-1, should not be issued to the individual, but be held by company and similar unit supply officers, for issue when necessary.

4. Some drums of Agent, Demustardizing (bleach) have rusted through approximately sixty (60) days after delivery to Port of Embarkation. It is recommended that the inside and outside surfaces of chloride of lime drums be treated to render them resistant to corrosion. It is recommended that chloride of lime not be issued to troops prior to embarkation, but be carried with supplies for monthly maintenance and issued after units have debarked.

5. Poor position of installing of the Apparatus, decontamination, 1½-quart, on vehicles resulted in loss of decontaminating liquid due to open valves. Numerous apparatus installed are improperly located and could not be reached if it were necessary for a vehicle driver to decontaminate his way out of a vehicle. Standard locations in all vehicles should be determined.

6. Curtains, gas proof, should be deleted from TBA of combat units. The extra weight and space assigned to this item does not warrant its being carried by fast moving troops.

7. Generator, smoke, vehicular, M-1, should, it is believed, be no longer TBA equipment due to mechanical difficulty in installing and servicing. M-15 explosive smoke grenades should be provided instead for all armored and motor units as well as for tank destroyer units.

8. Kit, HS, vapor detector, should not be taken during landing operations.

9. Recommend that TBA allowance of sacks, gas resistant, be cut in half; also maintenance figures. Packing should be improved to prevent breakage of crates. Approximately two-thirds of sacks received were packed in too light a container. Recommend that this item be held in depot storage until needed.

10. Recommend that a complete unit of maintenance, gas mask repair parts, for 200 masks for 90 days be packed in one box complete as a unit.

11. Present flamethrower, portable, M-1, too cumbersome and necessary fuel oil, hydrogen, nitrogen, further complicates supply problem for fast moving troops required in a landing operation. It is recommended that a simple, easily portable flamethrower be developed similar to a large Roman candle, to be used once and discarded. Such a flamethrower should have a range not less than fifty yards and weigh not more than twenty-five pounds.

12. Fuel oil drums should be more plainly marked with some distinctive marking to distinguish them at a distance from gasoline and similar drums. Also, a better grade of paint and larger letters should be used

for marking drums so that markings will not be obliterated due to weather and rough handling.

13. It is recommended that respirators, dust, M2, be packed in a manner similar and equal to service gas mask. Present package does not withstand weather. The M2 should be issued to replace the M-1 as soon as available.

14. Chemical troops, armed with mortars for firing TNT and smoke would have been invaluable in supporting the attack, especially during its early stages when little or no artillery was available.

CENTER TASK FORCE:

1. It is believed that smoke is highly desirable in any amphibious operation whether H hour is at day or night. It is at times essential to screen ships from shore batteries. This was especially true at ARZEW when early on 8 November a battery of 75mm guns which had not been mopped up by assault troops opened up on the convoy. This type of smoke screen can best be accomplished by special Naval craft. There is also need at times for smoke on the beach itself, to protect troops who are landing from observed hostile fire.

2. Smoke plans should also include the use of smoke pots around vital areas to prevent precision bombing.

3. If indications are that enemy will use gas, assault troops should be given special training in protective measures.

General

WESTERN TASK FORCE:

1. The present types of landing craft (LCP's, LCV's and LCM's) are not of sturdy enough construction. Many were put out of commission during the first and the second days of the landing by contact with underwater rock formations. Many naval officials concurred in the opinion that they were not built strongly enough.

2. It is believed that continued efforts should be made to modify the field range, M1937, so that less clogging of feed lines and burners develops when using leaded gasoline. It is not practical to carry unleaded gasoline as an additional item of supply, so this range should be made capable of using 80 octane leaded gasoline without the present difficulty encountered.

3. It was apparent during the early days of the operation that the individual soldier as a rule had not been properly trained in the care, cleaning, and preservation of his individual clothing and equipment.

While this matter is entirely a command responsibility, appearances indicate that more time should be spent on this subject in order to reduce the quantity of replacement items drawn from reserve stocks.

4. Many units equipped with new and different types of TBA equipment just prior to embarkation had no opportunity to become familiar with such items before debarkation. Some instruction was given en route, but this was not sufficient to get efficient results out of such items.

5. All troops need more training in the handling of supplies. Many officers and non-commissioned officers with supply functions were not familiar with standard supply channels, nomenclature, installations, nor the technique of handling classes of supply.

6. The need for much more amphibious troop training was apparent. Training in the actual handling of supplies across beaches, training of shore parties and beach parties in conjunction with troops and their supplies, and training in the involved communications system of a landing on a hostile shore must be emphasized and carried out under as near as possible combat conditions day and night.

7. There is a definite need for some type of small craft capable of dragging beached landing craft back into the water so that they may be put back into operation and service. Many craft were beached by the high swell and breakers and were not recovered before destruction by the surf. Such recovery craft could have saved many for unloading purposes.

8. Further familiarization with and training in the applications and use of the technique of waterproofing of all vehicles and the "Blue-sealing" of tanks is necessary. Drivers and crew members must be instructed in the putting on and taking off of elements of the above to preserve and protect vehicles before, during, and after the necessity for this protection.

9. The subject of Amphibious Operations, beginning with the initial planning stage and including all phases of operations on hostile shores that are joint Army, Navy, and Air, should be covered exhaustively in all service schools to include the Command and General Staff School. It is considered advisable to expand the separate Amphibious Force C & GS course given briefly at Amphibious Force Atlantic Fleet Headquarters to include details of training, planning, and coordination among services, necessary to the execution of such an operation. The Transport Quartermasters' School likewise should be expanded to insure that each organization has personnel familiar with these very special duties.

CENTER TASK FORCE:

1. A Civil Affairs Section should be made available to planning groups early in order to permit proper coordination of tactical operation and plan for civilian control.

2. The Provost Marshal's motor equipment set-up in T/O is at least 50 per cent inadequate for any operation. This was the subject of a report rendered to the Provost Marshal General, ETO, in September, 1942. The 202d Military Police Company has been able to function efficiently because this fact was recognized and the number of ¼-ton, 4 x 4 and reconnaissance cars doubled from twelve to twenty-four.

3. In building up good will among civilians in captured or occupied areas, it is believed the use of American films is very important. It is believed that a large supply of 16mm feature films should be included in an early convoy. These films may also be shown to our own troops and will undoubtedly do much to maintain morale.

- END -

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HEADQUARTERS
ARMY GROUND FORCES
Army War College
Washington, D.C.

319.1/9 (Foreign Obsrs) (C) - GNGBI
(2-19-43)

February 19, 1943.

SUBJECT: Observers' Report.

TO: Commanding Generals,
Second and Third Armies,
III, IV, VII, VIII, IX,
X, XI, XII, and XIII Corps,
II, III, and IV Armored Corps,
Airborne Command,
Amphibious Training Center,
Antiaircraft Command,
Desert Training Center,
Mountain Training Center,
Replacement and School Command,
Tank Destroyer Center,
Chief of the Armored Force.

1. The inclosed report of Lt. Colonels Hugh F. Harris, GSC, and Gerald J. Higgins, Infantry, Observers from Headquarters Army Ground Forces to Northwest Africa, is furnished for your information.

2. Distribution to divisions has been discontinued by the Commanding General, Army Ground Forces. Reproduction and distribution of observers' reports to subordinate units is not authorized.

3. Changes in training doctrine as enunciated in War Department publications, which are necessary because of the information contained in observers' reports, will be published by the War Department. Changes in training directives of this headquarters, which are necessary because of information contained in observers' reports, will be promulgated by this headquarters.

By command of LT. GEN. McNAIR:

J. R. DRYDEN,
Lt. Col., A.G.D.,
Ass't Ground Adjutant General.

1 Incl - Report by Lt. Colonels Harris and Higgins.

CLASSIFICATION changed to Unrestricted
Authority War Dept AGAD 7452
By Catherine Zaloney

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UNCLASSIFIED

HEADQUARTERS
ARMY GROUND FORCES
Army War College
Washington, D.C.

February 15, 1943.

1. The information contained in this report was secured in Northwest Africa during the period December 26, 1942 to January 31, 1943 by military observers whose primary mission was the observation of current airborne operations and a study of the practicability of future airborne operations from airdromes based in North Africa. Actual observation of many events, conferences with key officers at various headquarters and tactical organizations, official reports, and information contained in intelligence and operations bulletins and summaries published in that theater form the basis of this report.

2. The report is presented in sections as follows:

I. Airborne Operations in the African Theater to Date.

II. Comments on African Airborne Operations.

SECTION I

AIRBORNE OPERATIONS

1. AMERICAN. The Second Battalion of the 509th Parachute Infantry (formerly Second Battalion, 503rd Parachute Infantry) has participated in three tactical jumps, two ground operations, and one supply mission to date (January 31, 1943).

The tactical jumps were made at ORAN on November 8, 1942, YOUKS-LES-BAINS airport on November 16, 1942, and near EL DJEM on December 26, 1942.

The two ground operations were the initial occupation of GAFSA on November 23, 1942, and the capture of FAID PASS on December 2-3, 1942.

The supply mission involved the emergency delivery of approximately two thousand "K" rations to the French Forces near the OUSSELTIA Valley on January 23, 1943.

a. Oran. In conjunction with the landing of the units of the Center Task Force at ORAN, ALGERIA, on the morning of November 8, 1942, the Second Battalion, 503rd Parachute Infantry, under command of Colonel Edson D. Raff, was directed to make a parachute landing between the TAFARAOUI and LA SENIA airports; one company was then to proceed to and capture the airport at LA SENIA, and the remainder of the battalion to proceed to and capture the TAFARAOUI airport.

The employment of the battalion was conceived about six weeks prior to the actual date of combat, which permitted the battalion to prepare sand table models, sketches, maps, and special equipment needed for the operation. Training on terrain similar to that in the ORAN area was conducted in ENGLAND and by D-1 every man was thoroughly familiar with the details of the plan. For security reasons the two objectives were called Airport "A" and Airport "B", but the sketches, maps, etc., showed all terrain features and enemy installations as they actually existed. A serious deficiency in the planning and training for this operation, however, was the fact that the air force was not in a position to rehearse their part prior to the actual operation. Due to the limited area in ENGLAND, and employment on other missions, the crews of the transports did not have an opportunity to practice long range instrument flights over strange territory at night. Many of the navigators were assigned to the squadrons just prior to the operation, and their ability was unknown to the pilots of individual ships.

During the planning stage of the operation, all concerned were informed that, due to the uncertain political situation then existing in NORTH AFRICA, resistance might or might not be expected upon landing. Consequently, two plans were drawn up; (1), the "WAR" plan was based on active resistance by the French forces in the vicinity; (2), the "PEACE" plan was based on an unopposed landing, with the French forces welcoming the invaders. The battalion, however, assumed, for the purposes of training, that the landing would be opposed, and therefore practiced the "WAR" plan.

The principle difference between the "WAR" and "PEACE" plans was that in the former, the parachutists would actually jump on an area between the two objectives; in the latter, the transports would land and disembark the parachutists; in either case, the parachutists were to proceed immediately to their respective objectives. Under the "WAR" plan, the take-off from ENGLAND was to be such that the parachutists would jump on their objectives at "H" hour (0100); under the "PEACE" plan, the take-off from ENGLAND was to be such that the parachutists would air-land in the transports at dawn (0530). The signal indicating which plan was to be followed was to be flashed from GIBRALTAR in sufficient time to permit either plan to be put into effect.

The entire battalion was loaded in 39 C-47 Transport airplanes of the 60th Troop Carrier Group at the airdromes of ST. EVAL and PREDENNACK, LANDS END, ENGLAND, ready to take off when the signal was received from GIBRALTAR that the "PEACE" plan was in effect.

The take-off from both airdromes began at 2130 hours, D-1, and the entire force assembled and began the long flight at approximately 2200 hours. Soon after some fog was encountered and the formation began to break up. By dawn the largest single group consisted of six planes, and over fifty per cent of all planes were entirely ignorant of their position; several others knew approximately where they were, but were unable to orient themselves exactly. Eleven flew directly to their objectives.

To assist the transports in finding their objective, a British naval vessel was to transmit a homing signal from a warship seventeen sea miles from LOURMEL on an azimuth of 120 degrees from the airports. In addition, Allied agents in the vicinity of TAFARAOUI were to send a homing signal from their Bantam component, to be picked up by those transports equipped with the Rebecca device. Neither of these measures was of any assistance; no plane was able to contact or make his presence known to the instrument operators.

At dawn the 39 transport airplanes were scattered from SPANISH MOROCCO to points east of ORAN. Eventually, three landed in SPANISH MOROCCO, and were interned. One landed at GIBRALTAR due to engine trouble; two landed at LA SENIA airport; one southeast of ORAN; and the remainder landed in the SEBKRA, a dry lake bed about thirty miles west of TAFARAOUI.

The first transports to arrive in the area of LA SENIA airport, the "PEACE" plan objective for the air-landing of the battalion, observed that the airport was being bombed, and were met with some small-arms or other antiaircraft fire from the vicinity of the field. From this they became aware, for the first time, that the "WAR" plan must be in effect. Three planes jumped their parachutists on the high ground north of the SEBKRA; the remainder landed their troops in the SEBKRA. As other planes arrived they perceived that something was wrong in the plan, and proceeded to land at the SEBKRA where the other planes were already down.

By 0900 approximately 300 parachutists were assembled in the SEBKRA. In the absence of other instructions, it was decided to march the entire unit to the south side of the SEBKRA, and from there advance on the respective objectives indicated by the "WAR" plan. Accordingly, the parachutists crossed the SEBKRA and reached the south side about noon.

There it was decided to send as many men as possible by plane to TAFARAOUI to assist in its capture or take over control if the field had been seized by Combat Command "B", as directed under the "WAR" plan. Only three planes were believed to have sufficient gasoline to fly any distance. These three planes were sent for, and upon arrival were filled with as many men as possible. The remainder set out on foot to march to TAFARAOUI airport.

Just after the take-off, at 1600 hours, the flight of three planes was attacked by six enemy fighter aircraft. All three planes were forced to land, three parachutists and two Air Corps men being killed and fifteen parachutists being wounded.

The remainder of the unwounded and some slightly wounded paratroopers then set off on foot for TAFARAOUI airdrome, arriving at dawn. They approached the field in advance guard formation, but encountered no resistance. Some American Air Force personnel was present on the field, having arrived after the field was seized by elements of Combat Command "B". The paratroops then took over the guarding of the airdrome.

Motor transportation was dispatched to meet the column marching from the SEBKRA, and the bulk of the parachute battalion arrived at the field by 1600 D plus 1.

b. Youks-les-Bains. Upon completion of all operations in and near ALGIERS, ORAN, and CASABLANCA, a decision was made by the Allied Force Commander to press rapidly on TUNISIA. It was known that an excellent airport, with large gasoline reserves, was located at YOUKS-LES-BAINS on the Tunisian border, near TEBESSA. The Second Battalion, 503rd Parachute Infantry, was directed to capture the airdrome and prevent possible destruction of this gasoline supply.

Elements of the battalion were scattered throughout the ORAN and ALGIERS area, but orders were issued to assemble the unit at MAISON BLANCHE Airport, ALGIERS, without delay. By November 13, 1942, approximately one half of the battalion was at ALGIERS. On the night of November 14, 1942, the remainder of the battalion arrived and the battalion was ordered to take off at dawn the next day and seize the YOUKS-LES-BAINS airport. No detailed orders were issued, no photographs were available, and no reconnaissance or terrain study of the objective was possible. The pilots of the transports (which were assembled overnight) were briefed by their squadron commanders, generally, to "follow me."

The flight of 33 C-47 transports, escorted by six fighters, took off at 0800 and arrived over the dropping zone at approximately 1030. It was not known; even then, whether resistance would be met but it was assumed that the French would at least be present. Orders were not to fire, unless fired upon.

The airport was so large, and the surrounding terrain so uniform, that some difficulty was experienced in finding the dropping zone. Several planes circled the field for some time before the parachutists dropped. One participant reported: "There was no clear cut tactical, communication, intelligence, or other plan announced to the battalion; consequently unit commanders had no idea of what to expect."

The jump was made directly on the field in the face of a French infantry battalion. The defending troops were well dug in, with machine guns emplaced to sweep the entire field. Two armored cars were waiting on the road at the western edge of the field. The high ground east of the field was well organized and prepared to resist just such an operation.

Fortunately, the American parachutists did not fire a round, so the French withheld their fire. After a conference between Colonel Raff and the French Commander of the defending troops, the parachutists were permitted to occupy the field. Colonel Raff assigned defense units to garrison the field, and the French troops withdrew to their barracks some five miles from the field. An excellent airport, now employed to full capacity (January 31, 1943) was thus secured for the Allied Forces.

Fifteen parachutists were injured as a result of this jump.

c. El Djem. The German forces in LIBYA had been receiving supplies via TUNIS-GABES due to destruction of port facilities at TRIPOLI. On request of the Eighth Army, Allied Force Headquarters in North Africa decided to make an attempt to interrupt the flow of supplies by destroying a section of the one railroad then in operation between TUNIS and GABES.

Six miles north of EL DJEM there is a major railroad bridge with six forty-eight foot spans of steel. Three unsuccessful attempts were made to destroy this bridge by bombing. It was then directed that a small force of parachutists make an attempt to destroy this bridge by spot demolition.

Lieutenant DeLeo, with six expert demolition men, two French soldiers who spoke Arabic and were familiar with the EL DJEM area and were to act as guides, and twenty-one riflemen to protect the operation, were dropped near EL DJEM at 2220 hours December 26, 1942. Three C-47 transport planes carried the parachutists to the dropping zone.

According to the Air Corps report, the parachutists were dropped in the area selected; according to the report of returning participants, they were dropped some two miles from the objective. In any event, the parachutists experienced considerable difficulty in securing their equipment after the jump, orienting themselves, and proceeding toward their objective. Some three hours after the jump, which was evidently unobserved, they reached the railroad but could not locate the bridge. They proceeded along the railroad until they arrived at the outskirts of EL DJEM, when it became evident that they were travelling the wrong direction on the railroad. As it was then about dawn it was decided to take cover and wait until that night when another attempt would be made to locate and destroy the bridge. The party then hid in an olive grove near the railroad.

About noon parties of the enemy were observed searching the countryside, and it became apparent that it was only a matter of time before they would be discovered. It was decided to blow as many rail sections of the railroad as possible within the immediate vicinity, which was done by 1400 hours. Immediately thereafter the party split up into groups of two or three and attempted to make their way back to the Allied lines some seventy miles to the west.

Lieutenant DeLeo, the two French guides, and two other parachutists captured an Italian truck just after dark and drove it west until it became stuck in the mud. They then abandoned the truck and proceeded west on foot. They reached the French lines in the vicinity of FONDOUK at 0900 December 30, 1942. One other parachutist, Private Michael Underhill, managed to reach the Allied lines early on the morning of January 1, 1943. The remaining twenty-four parachutists were unreported to date (January 31, 1943).

d. Gafsa. On November 21, 1942, it was reported that an enemy force was advancing on GAFSA, some hundred miles from YOUKS-LES-BAINS. Colonel Raff immediately secured all available motor transportation and proceeded to GAFSA with the battalion of parachute troops at his disposal. A small force of the enemy was encountered just east of GAFSA, but they withdrew without a battle. The parachute troops were used to assist in the defense of the town for a few days, but as no action developed they were eventually withdrawn and the bulk of the battalion returned to MAISON BLANCHE airport near ALGIERS.

e. Faid. On November 30, 1942, it was decided to seize the important mountain pass at FAID, and Colonel Raff was directed to secure the pass without delay. It was estimated that some two hundred German and Italian combat engineers and infantrymen were defending the pass. Colonel Raff had at his disposal one battalion of the 26th Infantry, Company "B", 701st Tank Destroyer Battalion, a detachment of British Pioneers, one company 7th Algerian Tirrailleurs, one platoon Chasseurs d'Afrique, one company Senegalese Infantry, one battery French 75mm Artillery, and Company "E", 503rd Parachute Battalion, plus four P-38 fighter planes.

The above Task Force left FERIANA at about 1700 hours December 1, 1942. Its route was FERIANA - KASSERINE - SBEITLA - SIDI BOU ZID, and thence to the east of the enemy position at FAID.

The attack commenced shortly after dawn on December 2, the four P-38's strafing the German position for five minutes. This attack was followed by an artillery bombardment of the enemy by the guns of the Tank Destroyer company. One company of Algerian Tirrailleurs was unloaded from trucks about five thousand yards from the enemy positions and advanced as skirmishers under cover of this artillery barrage.

The battalion of the 26th Infantry was put off trucks about four miles to the south of the enemy position, and advanced toward the enemy right flank on foot, carrying their machine guns and mortars. Enemy fire from the pass forced the tank destroyers to withdraw out of range before the advancing Algerians were within striking range. The Algerians were then pinned to the ground unable to advance further or withdraw. It was almost impossible to see the enemy, so well concealed were their positions.

The 26th Infantry battalion continued to advance and in about three hours had mounted to the top of the rocks which overlooked the enemy right flank. By this time, our troops were so tired and the enemy fire was so strong that our advance was at a standstill.

At the end of the first day the situation was unfavorable. Our troops were being held at bay by heavy fire, but were across the enemy route of withdrawal.

Colonel Raff then brought up Company "E", 503rd Parachute Battalion, and the French 75mm Artillery battery (at dawn of December 3rd). The French artillery fired about 200 rounds of high explosive and shrapnel.

The parachute company was put into position to storm the heights dominating the main position of the enemy. The fight continued throughout the day, the French artillery again shelling the enemy position during the afternoon. About 1730 the enemy surrendered, over 130 prisoners being taken.

One attempt to relieve the enemy position was made by an armored column with motorized infantry accompanying it, at about 1100 December 3, 1942. The first three vehicles of this column were knocked out by the tank destroyer company at a range of approximately 5000 yards. The remainder of the column withdrew, with the P-38's strafing their formation.

Five parachutists were wounded in this engagement.

f. Ousseltia Valley. On January 21st, the 2nd Battalion of the 509th Parachute Infantry was ordered to prepare a large number of equipment bundles containing separate units of rations, water, gasoline, and some small arms ammunition for possible emergency supply for units of the II Corps then preparing for an attack. The attack did not materialize, but the battalion was called upon to deliver 2000 "K" rations to an isolated French force in the OUSSELTIA VALLEY. Three C-47 transports were utilized for this purpose, and the delivery was made without incident. Orientation and jumpmastering was so exact that bundles were observed to drop literally on the dug-in positions.

2. BRITISH. The 1st British Parachute Brigade has engaged in three separate parachute operations to date (January 31, 1943).

a. Bone. On November 12, 1942, the 3rd Battalion made a non-resisted drop on the BONE airport and seized the installations. No resistance was met and no casualties were suffered other than six jump injuries.

b. Souk-El-Arba. On November 16, 1942, the 1st Battalion dropped at SOUK-EL-ARBA and took possession of the city. The commanding officer was met by a French officer who took him to French headquarters. The airport and city were turned over to the British without opposition.

c. Depienne. On November 29, 1942, the 2nd Battalion dropped at DEPIENNE with the mission of proceeding to OUDNA and then to strike northwest to ST. CYPRIEN, where contact was to be made with the First British Army attacking to the east.

The battalion emplaned at MAISON BLANCHE, ALGIERS, in forty-four C-47 American transport planes, and the entire formation was off the ground at 1230. Long range Hurricanes, Lightning, and Spitfires from LE KEF were escort. The first element dropped at 1450 in an area about one and one half miles long by one half mile wide. A number of containers failed to release from the plane and some equipment chutes failed to open. Several men were without rifles, and several crew-served weapons (Bren guns and mortars) were lost. One man was killed when his parachute failed to function properly, otherwise no casualties were suffered in

the jump area. No French or German troops were in the immediate vicinity, and the battalion was able to form up without undue delay.

The battalion immediately marched on OUDNA, seized its objective (an airfield which had been reported in use by the Germans, but which actually was not in operation) and then proceeded toward ST. CYPRIEN. Just short of ST. CYPRIEN they received word that the attack of the British First Army would not materialize due to rain and supply difficulties. The battalion operated alone for five days behind the enemy main positions, almost constantly under fire, offering resistance by day and withdrawing by night. At one time the battalion was within fifteen miles of TUNIS. Eventually the bulk of the battalion escaped, by small units, to the Allied lines. Approximately 250 men out of 600 making the jump were lost. Despite this loss the battalion was immediately placed in the front line defending an important rail junction; the remnants of the unit were under almost continual fire for some ten days before finally being relieved.

3. GERMAN. German parachute and glider operations against Allied forces are as follows: (a) On December 29, 1942, two loaded gliders landed some ten miles south of PERIANA and crews destroyed a bridge at SIDI BOU BAKER. (b) On the night of December 29-30, a ten seater German glider made a good night landing five miles south of ST. ARNAUD but the glider was abandoned and no military damage was reported. (c) Early on December 30, another glider crash-landed six miles north of MARSOTT and the crew destroyed a highway bridge. (d) Parachute troops were landed between CLAIRFONTAINE and MARSOTT on the night of January 19-20. No damage was inflicted but twenty parachutists were captured. During the night of January 20-21 and January 22-23, parachutists were dropped near KASSERINE and SBEITLA. Two railroad bridges, one eight miles southwest of KASSERINE and one eight miles northeast of the same town were destroyed. A similar attack at SBEITLA failed. On three successive nights, planes returned and evacuated parachutists. (e) There were constant reports of landings but others were not definitely verified by capture of prisoners. One parachutist was captured just outside ALGIERS by a patrol of the 509th Parachute Infantry. (f) On January 23, 1943, a transversal bridge north of SBEITLA was destroyed by a small party which landed in a light plane (similar to our Cub liaison plane). The plane took off as soon as the mission was accomplished.

SECTION II

COMMENTS ON AFRICAN AIRBORNE OPERATIONS

(See Section I)

1. GENERAL. Airborne movements conducted by the Allied Forces have consisted of operations of a minor nature against objectives at which little or no resistance was offered.

Operations of the Axis forces have consisted of ferrying personnel and equipment from Italian bases to TUNIS and BIZERTE, plus sabotage missions employing glider, parachute, and light airplane landing units.

The operations to date, therefore, do not give an indication of specific tactical principles which should be employed but rather indicates the technique of planning and a guide as to how our equipment withstands rough usage.

a. Comments on Planning of the Operations. Discounting the advisability of action as taken (Section I of this report) because of the political situation (for which recognition all commanders should be commended for taking the risk) it is the opinion of the parachute and air force officers contacted (both American and British) that the continuation of such methods of employment will result, against determined German-Italian resistance, in excessive losses with doubtful results. It is believed that, as far as the time factor is concerned, a minimum of five days will be required to properly prepare for an airborne operation on a minor scale (involving a battalion or less) and that for larger operations at least ten days will be desired. (These time factors were finally recommended to Allied Force Headquarters by both Americans and the British). To meet even this time factor, all units must have well planned standard operating procedures which will leave staffs relatively free of logistical problems and permit concentration on the tactical problems involved.

Troop carrier airplanes must be furnished in sufficient quantity to permit primary usage in airborne operations. The air force staffs could thus employ the airplanes for cargo missions, for economical usage, but the number available must be sufficient to prevent the interruption of essential supply functions in order to launch an airborne effort. It is necessary that the air staffs make provisions for rapid assembly of troop carrier airplanes without throwing freight schedules into disorder and without, in each instance, having to overcome the objection of the higher Air Headquarters. (In each of the operation plannings observed, the air forces fought the operation because routine schedules had to be interrupted.)

Airborne and troop carrier units must train together before entering a combat operation. We should not permit transport pilots to carry well-trained American soldiers with the same nonchalance that routine cargo is flown on a freight line. Unless the parachutists and troop carrier personnel have an opportunity to work together and understand the other's problems, the best planned operation may fail due to lack of good teamwork and cooperation.

It is a personal opinion that with an experienced airborne and air force staff whose primary attention is given to the continual planning of airborne operations, as do target committees for the bombing of enemy installations, most of the coordination required for an airborne operation can be made promptly.

2. TACTICS. Small scale parachute jumps on known defended positions are considered basically unsound. At BONE, SOUK-EL-ARBA and YOUKS-LES-BAINS, there was no assurance that the French would not resist. (At least the unit commanders had none.) There were many possible landing areas near the objectives which were considered more

desirable tactically. At YOUKS-LES-BAINS, the area for ten miles on each side was usable and a hill area to the east actually afforded a fair covered approach. Had even a token of resistance been received at YOUKS-LES-BAINS the result might have been disasterous.

The plan to take the airports at ORAN was considered excellent.

Sabotage against Allied Forces had been successful in at least one-half of the missions attempted. The only American attempt was a failure. Tactically, however, it is believed that airborne units can, generally, be better used in large numbers in an assault against important objectives rather than expending small units in minor sabotage missions. Both usages, however, are completely appropriate in the North African Theater.

Axis forces successfully jumped parachutists, crash-landed gliders, and surface-landed small aircraft at night. Night landings, at least by small units, are possible and practical in this theater.

German parachute units have normally operated in small groups of about twelve men. Some prisoners taken were armed with pistol, grenades, and three kilograms of explosive. Some captured glider personnel wore blouses and trousers similar to the United States Army working suit, but insignia was worn to stay within the provisions of the Geneva Uniforms Convention. Under the lapels and collar of a camouflaged jacket (worn over the blouse) nitroglycerine tubes were hidden. The men had hand grenades and carried both France and United States dollar bills (not the Gold Seal Invasion Currency, however).

One parachute medical officer interviewed spoke excellent English, and was very courteous to his captors and guards (two Frenchmen). He wore a jump suit somewhat similar to that of the Americans except that a small blouse of similar color was added. He also wore a pair of jump boots similar in design but not as strongly constructed as the American boots.

Italian prisoners stated that parachute troops were given a three months course at the Basic Training School at TARQUINA, near ROME; a one month course in ground tactics at CIVITAVECCHIA, followed by a month's rest at AREZZO before being sent to TUNISIA.

One of the German gliders was observed at FERIANA. It is known as a DFS 230, a high-wing braced monoplane with a fuselage of rectangular cross-section. It is fabric covered, of tubular metal construction and has a single fin and rudder. Nine fully equipped men, in addition to the pilot, sit in tandem on a boom running down the center of the fuselage. Wheels are jettisoned after take-off. A single skid, with a shock-absorbing device, is mounted under the forward part of the fuselage. It has a wing span of seventy-one feet, six inches and a fuselage length of thirty-one feet five inches. It carries a pay load of twenty-eight hundred pounds, with a gross overall load of forty-six hundred pounds.

Captured German parachutes were of standard design, personnel chutes being white and equipment chutes a light brown. A fabric similar to rayon was used in the canopy. The lift webs were of heavy braided cotton cord. A quick-release device was incorporated in the personnel chute harness. Equipment bundles were made of a light reed construction, and were about four feet long by two feet wide by eighteen inches high.

3. EQUIPMENT. a. The American jump suit requires reinforcement around the pockets. When grenades are taken into combat the pocket soon rips.

b. A special container on the order of the mortar bag is needed to carry the M-9 grenade.

c. Scouts of each platoon should be equipped with telescopic sights. (The sniper rifle now undergoing test may be the answer to this.)

d. Bee Hive (British) explosives appear ideal for parachutist demolition work.

e. Parachute rigger sewing machines are at present operated by electricity, which, in this theater is not always available or of the correct voltage. At least one machine in each unit should be pedal operated.

f. A protecting tube for the morphine syrette is necessary, as any pressure when carried, unprotected, destroys its effectiveness.

g. The jump boots are entirely satisfactory, and have stood up well under all combat conditions. However, it is strongly recommended that the boots be waterproofed.

h. Small hand carts are needed. The M3A-4 cart appears to be satisfactory for parachute use.

i. A canvas field packing table is desirable, and should be developed without delay.

j. The thirty-five wooden tables allotted each battalion are excessive in number. The weight and bulk of such tables is prohibitive to rapid unit movements in active operations. It is believed that not more than twelve such tables are necessary for a parachute battalion.

k. The standard parachute dummy is unnecessary. Improvised bundles or weights have been entirely satisfactory. A great deal of shipping space and weight can be saved by the elimination of this item.

l. The SCR-536 and 511 sets have functioned well during all operations. The SCR 284 set was not used.

m. A parachute battalion, separated from its regiment has many handicaps in that basic equipment normally assigned to regiments (transportation, parachute maintenance supplies and equipment, motor maintenance sets, etc.) are not available. If a parachute battalion is to function separately, its equipment should be carefully checked prior to departure from its regiment to insure that it can maintain itself properly in the field.

4. TECHNIQUE. a. All parachute officers interviewed thought that well-trained aircraft pilots should be the jumpmasters.

b. Unit rather than individual packing of parachutes is preferred.

c. Both American and British units had standard loading plans and ship assignments prominently displayed so that each man knew his normal assignment. Only minor adjustments were necessary when a mission was ordered.

d. Both American and British units commented on lack of time given to properly prepare for the missions assigned to date. Military intelligence was usually lacking due to this time factor.

e. The parachute and air force officers have agreed on a set procedure for airborne operations, and have outlined the responsibilities of each commander. This standard procedure has been the one saving factor since the time factor has been too short.

f. In all American operations, all individual equipment and arms have been jumped with the individual (including light machine guns and 60mm mortars.) Only in the night sabotage jumps were equipment bundles used.

g. The 81mm mortar has not been taken on operations, Colonel Raff stating that he did not believe that the weapon could be supplied. It was also directed that no entrenching tools be taken, although most officers felt that entrenching tools are vitally necessary to any operation. Had resistance been encountered, either from the ground or enemy aircraft, entrenching tools would have been absolutely necessary to minimize casualties.

h. Equipment bundle brackets were not brought in with the troops when the flight from ENGLAND was made, and to date have not arrived in NORTH AFRICA. It is felt that the absence of these bundles will materially affect any future operation, and every effort should be made to secure these brackets without delay.

i. British parachute troops use the parapack arrangement for bundle delivery, and the American Troop Carrier units prefer this type of equipment. However, the number available is not sufficient for all units. The British have had excellent success with this arrangement,

and have managed to drop heavy equipment (Bren guns, mortars, carts, radios, demolition, ammunition, etc.) simultaneously with the personnel.

j. Parachutes and containers have been recovered in all except the American EL DJEM and the British DEPIENNE operations.

k. About one-fourth of all American parachutes were destroyed when enemy bombs struck a hangar at MAISON BLANCHE airport where equipment was stored. Extreme difficulty is being experienced in securing replacements for lost, damaged or destroyed equipment.

l. General Clark and General Fredendall feel that the failure of American parachute operations was not due to faulty action on the part of the parachutists themselves, but rather was due to hurry-up and incomplete planning, and, in the OUJN operation, inability of the Troop Carrier units to find their objectives. Officers at Allied Force and Center Task Force Headquarters commented on the excellent performance of the parachutists on ground operations.

END

Hugh P. Harris
HUGH P. HARRIS,
Lt. Col., G.S.C.

Gerald J. Higgins
GERALD J. HIGGINS,
Lt. Col., Infantry.

309-A-714

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UNCLASSIFIED

AWC

3-A-1/14

HEADQUARTERS
ARMY GROUND FORCES
Army War College
Washington, D.C.

14

319.1/8 (Foreign Obsrs) (C) - GNGBI (2-19-43) February 19, 1943.

SUBJECT: Observer's Report.

TO: Commanding Generals,
Second and Third Armies,
III, IV, VII, VIII, IX,
X, XI, XII, and XIII Corps,
II, III, and IV Armored Corps,
Airborne Command,
Amphibious Training Center,
Antiaircraft Command,
Desert Training Center,
Mountain Training Center,
Replacement and School Command,
Tank Destroyer Center,
Chief of the Armored Force.

1. The inclosed report of Lt. Col. T. A. Seely, Infantry, Observer from Headquarters Army Ground Forces to North Africa, is furnished for your information.

2. Distribution to divisions has been discontinued by the Commanding General, Army Ground Forces. Reproduction and distribution of observers' reports to subordinate units is not authorized.

3. Changes in training doctrine as enunciated in War Department publications, which are necessary because of the information contained in observers' reports, will be published by the War Department. Changes in training directives of this headquarters, which are necessary because of information contained in observers' reports, will be promulgated by this headquarters.

By command of LT. GEN. McNAIR:

CLASSIFICATION changed to
Unclassified
Auth by War Dept AGAD 1452
By Catherine Zealberg

James D. Tanner
JAMES D. TANNER,
Lt. Col., A.G.D.,
Ass't Ground Adjutant General.

1 Incl - Report of Military Observer, with 6 inclosures.

~~CONFIDENTIAL~~

UNCLASSIFIED

SUBJECT: Report of Military Observer.

TO: Commanding General, Army Ground Forces.

1. In compliance with instructions the following military observer report is submitted.

2. A team from the 3rd Armored Division consisting of Lieutenant Colonel Harvie R. Matthews, Lieutenant Colonel Theodore A. Seely, 1st Sgt. William D. Massey, Technical Sgt. Robert F. Sylvester, and T/4 John T. Jones reported to Headquarters Army Ground Forces, Washington, D. C. on November 30, 1942, and received instructions.

3. a. During the stay at the Fort Hamilton Overseas Staging Area, the officers and men were quartered with casual troops. No restriction was placed upon the personnel in regard to visiting NEW YORK CITY until about 48 hours prior to embarkation, when they were alerted for movement. Personnel on alert status were not allowed to communicate with anyone outside the staging area and were restricted to area.

b. While at the staging area, protective clothing, helmets, leggings, gloves and impregnite and ointment were issued. This seriously taxed the capacity of the enlisted men's barracks bags.

c. While at the Staging Area, the officers were given the opportunity to observe loading operations at the Brooklyn Army Base and on Staten Island.

d. On the afternoon of December 11 the party, along with other casuals, was transported by Army ferry boat to Staten Island. The ferry boat stopped at a number of piers, debarking at each dock personnel who were scheduled to embark on the ship or ships tied up at that pier. These ships were known to the personnel only by number, such as NY 687, and baggage was all marked with this number as well as by shipping number. At the same time, other ferry boats were arriving from JERSEY CITY with troops which had been sent from Camp Kilmer, N.J.

e. The party completed embarking on the U.S.S. Elizabeth C. Stanton at about 1800 that evening. The assignment of accomodations to officers and enlisted men was made by the Port authorities. Upon arrival on board, however, Lieutenant Colonel Harvie R. Matthews was informed that he was the Commanding Officer of Troops, as he was the senior officer on the passenger list. This was the first information that he had received that he was the Commanding Officer of Troops. The troops were nearly all loaded, there was no provision for a staff or clerical assistance. It was necessary for Lieutenant Colonel Matthews to appoint a staff and to secure from units on board enlisted personnel to comprise a headquarters. That having been done, guard orders, police orders, mess regulations, etc., had to be drawn up, and details made to carry on the ordinary housekeeping of the ship. It is believed that officers who

are to become Troop Commanders on board ship should be informed at least 48 hours prior to embarking, in order to allow them the time necessary to get their headquarters organized and preliminary work done in regard to orders for the operation of various phases of life on board ship. The Commanding Officer of Troops and his staff should be ordered on board the ship at least 24 hours prior to embarkation.

4. a. The U.S.S. Elizabeth C. Stanton sailed on the morning of December 12, 1943, and became part of a convoy of 20 ships, under U.S. Navy escort.

b. The ship was very crowded, particularly in the officers' class. Officers were assigned to folding cots in hallways and companionways, and cots were placed in staterooms in addition to the regular berths. There was little space available for the storage of officers' hand baggage.

c. Messing arrangements were initially very unsatisfactory. The troop mess was under the supervision of a Warrant Officer, U.S. N.R. and Navy cooks prepared the meals. The Army Mess Officer controlled principally the KP's and was responsible for the police of the Mess and the order in which troops were messed. This division of responsibility proved to be most undesirable.

The officers were messed in the Navy Officers' Mess, which was under the supervision of one of the ship's officers. The mess personnel were inexperienced negroes and were poorly supervised. The service was very poor and the food generally but fair. Troop and ship's officers were fed in four sittings, and very often there was insufficient food prepared for the fourth sitting. During two days of rough weather the officers were fed principally sandwiches.

d. Only half-hearted efforts were exerted by ship's personnel in instruction in abandon-ship drill. The Captain of the ship turned this detail entirely over to his Executive.

e. It was found that all troop details had to at first be made larger than necessary in order to provide for losses due to sea-sickness.

f. Because of the limited deck and hatch cover space, troops had to be exercised in comparatively small groups.

g. After one of the escort ships reported having picked up a radio on board our ship in its listening apparatus, a search of the troop holds was made which revealed the presence of nine (9) portable radios and two small puppies.

h. Navy personnel being insufficient for the purpose, the Troop Commander was called upon to furnish gun crews for AA guns and lookouts. As there was a battery of AA on board, in addition to a number of casuals with previous experience, this was done without difficulty. Two lookouts detailed from a medical unit on board were largely responsible one night

for the avoiding of a collision between our ship and another ship of the convoy.

i. The ship maintained a library and a ship's store, which were valuable factors in maintaining good morale among the troops. The ship's store had ample cigarettes and tobacco, but ran out of candy and peanuts before the voyage was over. It is believed that unit funds should purchase a large stock of candy before departure, to supplement the ration, which is short of sweets and long on heavy food. Some fruit juices could very well be taken along.

j. There were two Chaplains on board, and both Catholic and Protestant services were conducted. A large number of cigarettes were placed on board, as gifts from various organizations and firms throughout the U.S., prior to departure and they were distributed to the troops and the ship's crew. A turkey dinner was served on the 23rd of December, as it was expected at that time that we would arrive at ORAN on the 25th. A Captain of an Air Corps unit on board supervised, on his own volition, the publishing of a daily mimeographed ship's paper. The ship furnished the facilities for publishing, including receiving news broadcasts over their radio. This paper met enthusiastic reception by the crew as well as the troops.

5. a. The convoy of which our transport was a part arrived at ORAN early on the morning of December 26th. The ships were tied up alongside the quay at MERS EL KEBIR, about 6 miles from ORAN proper.

b. Troops were debarked by unit. They were required to stack, also by unit, their barracks bags and officers' hand baggage on the quay and left two men behind to guard them. The units were marched off of the quay, where they were met by guides who led them to temporary bivouac areas. Inasmuch as there was a shortage of motor transportation, some units had to march as far as 17 miles.

c. Units were expected to subsist themselves while in their temporary bivouac areas. None on board this particular transport had any C or K rations, as a result of which it was necessary to make hurried arrangements to draw them.

d. As officers' bedding rolls were in the hold, there was no provision for shelter or bedding for officers in the temporary bivouac areas. Enlisted men strapped or tied blanket rolls to their haversacks. None of the units on board were prepared to go ashore with full pack.

e. Enlisted men's A bags and officers' hand baggage were delivered to the units within 24 hours after debarking. The hold baggage - enlisted men's B bags, officers' bedding rolls and trunk lockers - were placed on barges at MERS EL KEBIR and taken by tug to ORAN, where they were stored on a dock under cover until called for. In some cases it required one week to get them to the dock at ORAN.

f. The party was taken from MERS EL KEBIR to the replacement

center at CANESTEL, about 15 miles east of ORAN.

6. a. On December 27th the party reported Hq. II Army Corps in ORAN. We were given billets in ORAN.

b. The period December 27 to January 1 was spent in ORAN, visiting the various staff sections of the Corps Headquarters, Hq. Mediterranean Base Section and elements of the 1st Armored Division in bivouac near ORAN.

c. On December 31, at the direction of the Commanding General, II Army Corps, the Mediterranean Base Section issued the party a 3/4-ton weapons carrier, with pedestal MG mount, a light machine gun, rifles, ammunition, and other equipment for our use on the trip to the front. The bedding rolls of the officers were not located until January 1st.

7. a. On January 2, the party drove to ALGIERS, Algeria, and reported to Allied Force Headquarters.

b. We were very favorably impressed during the entire trip by the efficiency of the British Military Police in handling the large volume of traffic. The undersigned was also favorably impressed by the driving and convoy discipline of British drivers encountered on the trip, especially considering their unfamiliarity with driving on the right side of the road.

c. The party had at no time during its trip any difficulty in securing gasoline and oil at either American gasoline DP's or British petrol dumps.

8. a. January 3 was spent in ALGIERS at Allied Force Headquarters. On January 4 the party drove to SETIF, Algeria and spent the night with Comapny A, 39th Infantry, which was on anti-parachute and anti-sabotage duty with a supply installation of the British First Army.

b. This company was comfortably billeted in the town of SETIF, and as it was merely required to be available for anti-parachute or anti-sabotage duty, it was engaged in normal company training. It was supplied by British supply agencies in a satisfactory manner, although the men would have preferred the American ration. As SETIF is in an agricultural district, however, they were able to supplement the British field ration by local purchase of vegetables, fruit, and eggs.

9. On January 5 the party drove to GUELMA, Algeria via CONSTANTINE, where it expected to find an American unit in billets at an agricultural school. However, it was found that the American unit had moved and a British petrol company was there. The party was put up for night by this company.

10. a. On January 6 the party drove to TEBOURSOUK, Tunisia by way of SOUK AHRAS, SOUK EL ARBA and SOUK EL KHEMIS and reported to Hq. Combat Command B, 1st Armored Division, which was in Corps reserve.

b. That night, Major General Oliver, Brigadier General Robinett, and the staff officers of Combat Command B were interviewed.

c. January 7th, the various units of Combat Command B were visited, as well as the British 6th Armored Division.

d. On January 8 the party visited the 18th Infantry, which was occupying a sector of the front south of MEDJES EL BAB. The regimental command post was visited, after which the sector of the 1st Battalion was inspected. There was no activity on the front, and the German positions were pointed out as being about 5 miles in front of the commanding ground held by the 18th Infantry. The 18th Infantry occupied a series of high hills affording good observation, but entirely devoid of cover. The men were entrenched in individual slit trenches and the principal activity reported was active patrolling on the part of both sides. A battery of our artillery fired some interdiction fire while we were in the lines, but we were unable to observe this fire because of a hill mask. We had been warned that the Germans intermittently shelled MEDJES EL BAB, which was on the front lines in a sector occupied by French troops, but it was quiet both times that we went through.

11. On January 9 the party drove to SETIF and on the 10th to ALGIERS.

12. a. On January 11 the undersigned, accompanied by Tech. Sgt. Sylvester and T/4 Jones flew from MAISON BLANCHE Airport, Algiers to TAFAROUI Airport, ORAN by a courier plane of the 12th Troop-Carrying Wing. Lt. Col. Matthews and 1st Sgt. Massey remained in ALGIERS and drove to ORAN the following day.

b. January 12 and 13 were spent in ORAN, turning in equipment and making arrangements to ship the officers' heavy baggage by transport back to the United States.

13. a. On January 14 the party flew by A.T.C. plane from ORAN to ACCRA, British West Africa.

b. It was necessary to wait at ACCRA for several days for space on a west-bound plane. Lt. Col. Matthews and T/4 Jones left ACCRA on January 16. The undersigned and the remainder of the party left on January 19 and reached WASHINGTON on January 25.

15. a. Lt. Col. Matthews has completed and turned in the questionnaire furnished by Hq. Army Ground Forces.

16. In addition to the points brought out above, attention is invited to the appendices attached hereto, and the following comments and recommendations:

a. Recommend that enlisted men traveling on transport habitually wear the work suit or coverall as shipboard uniform.

b. Recommend that an officer be sent to the theater to act as a permanent guide and advisor for reconnaissance parties such as ours, and that arrangements be made for issuing such parties transportation and such other equipment as they may need. (The party of which the undersigned was a member was very fortunate in that the officers were personal friends of the Commanding General and the Chief of Staff of the II Army Corps and were therefore well cared for in that respect, as was also a similar party from the 45th Infantry Division. Had it not been for the most valuable assistance given by Hq. II Army Corps, however, we would have had a very difficult time getting around.)

c. This party drew, at Newmarket Ordnance Depot, ORAN, a box of Cal. .30 MG ammunition, loaded in belts of 250 rounds, 10 rounds of AP to one round tracer. This ammunition was found to be so loose in the belts that in four hours of driving with a belt in the machine gun ammunition chest fastened to the gun cradle, approximately 50 per cent of the rounds had been shaken entirely loose and the belt would not feed. The belts were of very poor material, loosely woven cotton, and it is the opinion of the undersigned that they are entirely unsatisfactory and should not be used.

d. Major Spencer J. Scott, O.D., in charge of the Newmarket Ordnance Depot, ORAN reported to the party that storage batteries were being received by him from the United States packed in boxes which were unsatisfactory. Both 6 and 12 volt batteries were being received which had been broken in shipment. In one shipment of fifteen 12-volt batteries, twelve of them were broken and unserviceable. Major Scott showed the undersigned some of these boxes in which they were shipped. The boxes were of light construction and the top of the box pressed directly against the cell connectors and the battery handles. The result was that the handles were bent or broken off and the tops of the batteries broken, the connectors having been pushed down into the cells. The 12-volt battery weighs 166 lbs. and should be packed in a box so constructed as to protect the top and handles of the battery.

e. Major Scott also reported that his depot was very short of nuts and bolts of assorted sizes.

f. At the time that the party was in North Africa, it was practically impossible to buy stamps or Air-mail envelopes from APO's.

g. Recommend that all individuals have in their possession before embarking for Africa at least one C or K ration.

h. Recommend that in the future any military observers who are sent to Africa be warned not to take a trunk locker if they are to return by air. Also, they should take one khaki uniform for wear enroute across the South Atlantic.

i. Recommend that the technique of reconnaissance by fire be stressed in the training of our infantry, armored and reconnaissance units.

Appendices:

I - Comments of G-1.

II - Comments of G-2.

III - Comments of QM.

IV - Comments of Administrative Officer, Signal Office.

V - Comments of Ordnance Officer.

VI - Comments of SSO.

VII - Comments of C.O., Company A, 39th Infantry.

VIII- Comments of C of S, 1st Armored Division.

IX - Comments of Artillery Officer, 1st Armored Division

X - Comments of C.O., 1st Bn, 1st AR and C.O. 2nd Bn, 13th A.R., 1st Armored Division.

XI - Comments of Executive Officer, 1st Armored Division.

XII - Comments of C.O. 1st Bn, 6th Armored Infantry Regiment.

XIII- Extracts of recommendations made by various commanders and staff officers of CCB, 1st Armored Division for changes in organization, equipment and tactics of armored troops.

XIV - Copy of recommendations of C.O. 6th Armored Infantry Regiment for disposal of excess individual equipment.

XV - Itinerary of party.

6 Incls.
Appendices II, VI, VII, X, XI & XII.

(Other appendices on file at Hq, AGF).

T. A. SEELY,
Lt. Col., Inf.,
AGF Observer.

- END -

APPENDIX II.

Remarks of G-2, Central Task Force, Oran, Algeria, December 30, 1942. Remarks based upon Army Ground Forces' Questionnaire. Officer making remarks: Lt. Col. B. A. Dickson, G.S.C.

1. In general, combat intelligence training is considered to be satisfactory. Preparation in this field is better than for any other phase of intelligence or counter-intelligence work. The greatest defect that has been noticed in the operation thus far has been due to the fact that personnel selected for intelligence section had not always been trained for the job, while many who had been trained for this work were placed in other sections. It has also been noted that lack of coordination with other staff sections has been directly traceable to lack of thorough understanding on the part of the other sections of the duties and responsibilities of the intelligence section. A lack of personnel trained in foreign languages and foreign procedure has been a big handicap in this theater.

2. During operations, normal procedure is used to obtain, evaluate and disseminate enemy information, with variations. For instance, in a landing operation the sources of information are limited, due to the lack of ground reconnaissance and because signal communications are considerably limited by factors that cannot be foreseen. Air reconnaissance is also limited by availability of planes, landing fields, weather conditions, and often by limited radio communications. Interrogation of prisoners of war and examination of captured documents is, at best, a slow procedure and does not come into full use early enough in air operation. This is due to lack of personnel. Radio intelligence agencies should immediately be made available to G-2. Liaison officers in 1/4-ton trucks should be freely used.

3. The handling of prisoners of war follows standard practice with the exception that personnel for the purpose of P/W escort and the guarding of enclosures has been inadequate, causing variations which would, normally, not be followed. CTF units were not supplied with interrogators in spite of efforts of G-2 to secure qualified personnel. If and when such personnel becomes available, it will be attached to subordinate command echelons as a given situation may require. Ordinarily, two interrogation teams will operate in the Corps P/W enclosure.

4. It is recommended that a distinct separation between combat intelligence and counter-intelligence be emphasized. Combat intelligence should be understood to include, besides enemy order of battle, terrain studies, enemy capabilities, etc., field security, by which is meant cover, concealment, camouflage, safeguarding information, securing of access to officers, installations, etc., subversion and disaffection within the command. Counter-intelligence should be understood to include counter-espionage, counter-sabotage, investigation of subversion on request of a field commander, inspections of security of installations and safeguarding of military information.

5. It is believed that combat counter-intelligence is fully emphasized in training and is practiced in actual operations progressively better as the need for this training is recognized by the troops. Unforeseen problems that have not been emphasized in training are being corrected as they arise. For instance; mess kits and ration cans, carelessly handled, called enemy airmen's attention to location; this carelessness is corrected after one enemy attack at meal time.

6. The majority of aerial photographs were furnished and processed for this operation during its planning phase by the RAF Laboratories. British interpreters of aerial photographs gave United States Forces these photographs with interpretations attached, in limited quantities. During actual combat, the situation, if successful, moves faster than the processing and interpretation of aerial photographs.

7. During the training phase for this operation, aerial photographs were used, as map substitutes were limited. Units prefer to use maps when available.

During the actual operation, maps were used almost exclusively, due to the poor quality and scarcity of aerial photographs.

During the planning phase, aerial photographs were used to confirm locations of shore batteries, etc. During combat, aerial photographs were not used for this purpose. In case of a longer operation, it is believed that aerial photographs would be of real value in determining hostile dispositions.

8. The following scales of maps were used:

1 : 1,000,000
1 : 500,000
1 : 200,000
1 : 50,000
1 : 10,000 (Town Plans).

Photographic strips and obliques of the coast and essential terrain features were used and were quite helpful.

Plastic models (similar to sandtable work) were made of the landing beaches of sufficiently large scale to give details of the terrain. These were most helpful.

The maps used were British maps. The largest scale maps available were 1 : 50,000. For war movement, these are sufficiently large, but are unsatisfactory for artillery firing.

9. The distribution of maps for this operation was affected in the following manner:

a. Coverage and quantities of maps were prepared by G-2, CTF.

b. A scale of distribution was figured on what was thought needed, and map distribution tables in FM 30-20 used only as a guide.

c. Distribution was peculiar, in that the maps for a unit were prepared in sealed bundles by SOS from orders given them through the Corps Engineers, and loaded in the ship on which that unit was to travel. The Corps Engineer Map Officer supervised closely the loading to prevent any mix up. Instructions were given to the Commanding Officer of troops on each ship that the maps were not to be distributed until after the fourth day at sea. (This was for security reasons so that, in event any ship had to to turn back, general knowledge of the destination of the convoy would not be known until the convoy was well under way).

d. Normal means of distribution, as prescribed in Section VIII, FM 30-20, are now used. Requisitions are filled according to stocks available and needs are not entirely governed by set tables. Some series have to be rationed, depot stocks of other series are adequate to fill orders as requisitioned, provided they are reasonable and not in excess of normal allowances.

It is recommended that:

(1) A few maps of intermediate or small scale of areas, probably to be used in the future, be available early for use by the staff.

(2) A geography or atlas of the world be available in G-2 Sections. Need for this was found to be great.

(3) A greater supply of 1:50,000 scale maps be provided for all possible areas. This scale proved to be most useful during the operation.

- END -

APPENDIX VI

Remarks of Special Service Officer, Central Task Force, Oran, Algeria, December 29, 1942. Officer making remarks: Lt. Colonel Roy K. Terry, FA.

1. No leaves of absence or furloughs are granted in the theater or for the purpose of returning to the United Kingdom or the United States.

All units of the CTF operate on the basis of a 7-day week. Ten per cent of an organization is allowed to be on pass at any one time. Passes are for 24 hours, but as there is no place in Oran for officers or men on pass to stay, they must, as a rule, return to their organization at night.

In addition to there being no housing facilities for personnel on pass, there is also no transportation available for such personnel. The result is that the bulk of the men who go on pass visit a nearby village or town, rather than coming in to Oran. Men visiting Oran are, in general, from service units stationed on the outskirts of or near the city.

2. The appearance of enlisted men on pass is controlled by the lack of cleaning and laundry facilities. In most units, it is impossible for the men to get any laundry or dry cleaning done. The result is that the clothing of men on pass is not in the neat and presentable condition that it should be. As the men can get their shoes polished by Arab boys at very low cost, they generally present an excellent appearance, as far as their shoes are concerned.

Another factor in the matter of laundry is the shortage of soap in Algeria. While, in some cases, men may be able to get their laundry done by civilians, the soap shortage often precludes this, inasmuch as the soldier is generally expected to furnish the soap.

3. The conduct of men in towns and in Oran has been, in general, excellent. The main cause of trouble is due to failure of the American soldier to appreciate the potency and delayed action effect of the native wine. The soldier's attitude toward military police has been satisfactory. We have had very little friction in Oran.

The only forms of amusement for men in Oran on pass are movies in French at the civilian theaters, and the cheap French bars.

4. The only recreational facilities available to the organizations are what they themselves provide. The principal games which the organizations stress are touch football, softball, soccer football, speedball (a game played with either a soccer ball or a volley ball, which is a combination of soccer, basketball, and football), and volley ball. There is very little baseball. Many organizations give instructions in hand-to-hand and rough-and-tumble fighting and use of knives in personal combat.

This instruction is often substituted for calesthenics.

5. Practically no American newspapers and magazines are available here. The only ones received are those for which subscriptions have been taken, and the delivery of these has been most unsatisfactory. All the local newspapers are in French. Occasionally a Gibralter paper may be obtained and the Stars and Stripes issues an Algerian edition.

It is recommended that divisions or similar units publish a mimeographed daily paper, stressing world and United States news. The 1st Infantry Division publishes such a paper, which is distributed in such quantity as to enable every man to get some news of the world every day. This paper is very enthusiastically received by the men of the 1st Division.

6. Recommend that units bring all the good radios that it can. The radio is a very valuable morale factor.

7. There is no USO in Africa as yet. The Red Cross operates a room in Oran, which offers a place for men to write letters and lounge.

8. We expect movie films to be soon available in Africa. Units should bring their own 16-mm projectors and the necessary power supply.

9. Mail service, to date, has been very unsatisfactory. V-Mail service has not yet been made available. The morale of the troops, as indicated by censorship authorities, is high except in some cases of units which have been inactive near Oran. The personnel of these units is impatient to get into the fight, and they tend to become disgusted with the lack of activity.

10. There are no Post Exchanges. However, soap, razor blades, cigarettes, tobacco, matches, candy and gum are on the ration and are being received in satisfactory quantities, except in the case of soap.

11. Recommend that units and individuals bring with them additional supplies of the following items:

Writing paper.
Postage stamps and air-mail envelopes.
Razor blades.
Playing cards.
Paper-back novels.
Footballs and soccer balls.

12. Recommend that where possible units bring public address systems with record playing attachment and an amply supply of records. This music is a valuable morale factor.

13. Recommend that unit funds purchase and bring an ample number of copies of French-English, Italian-English, and German-English dictionaries.

14. Recommend that units bring material for the construction of portable shower baths. In many units, the bathing situation is acute, because of a lack of facilities.

15. Men and officers have little need for money in the African theater. There is very little upon which they may spend any money. It is suggested that an especial effort be made to have the men make additional allotments prior to departure from the States.

16. The best way for custodians of funds to bring their funds to the theater is in the form of a series of P. O. Money Orders. It is, at present, impossible to cash company or unit fund checks anywhere in the theater, and it is very difficult to cash Travelers' Checks. Postal Money Orders may be cashed at any APO. Officers should also bring their personal funds in the form of cash or Postal Money Orders.

- END -

APPENDIX VII

Comments of C. O., Company A, 39th Infantry, Setif, Algeria, January 1, 1943. Officer making comments: Captain Frank L. Gumm, Infantry.

Company A took part in the landing at Ain Taza on the 8th of November. After landing, our mission was to capture the Maison Blanche Airport (Algiers). No opposition was met on the landing or on the march. Two machine guns opposed us at Maison Blanche, which were easily overcome.

The landing was made with ramp boats and Y boats. The landing boats were overcrowded and of too light construction for the surf in which we had to land. Twenty-three boats out of twenty-five were broken up in the surf. The Navy crews operating the boats were poorly trained. In some cases, officers had to threaten the coxswain in order to make him land.

In loading the landing boats, much time could have been saved by putting heavy weapons and ammunition in the boats beforeputting them over the side. All of our personnel carried too much equipment. We had to march 11 miles to reach our objective, and the men carried a combat pack with one D and one K ration. Riflemen carried about 196 rounds. Officers carried 300 rounds of caliber .45 for their submachine guns. We carried on carts 30,000 rounds of light machine gun ammunition and 108 rounds of 60-mm mortar ammunition. It is believed that the pack should be left on the beach with the beach parties. The men could carry the K ration in their pockets.

This company is now stationed at Setif, Algeria, on anti-sabotage and anti-parachutist duty to protect supply installations of the British First Army. We have had some difficulty keeping an adequate stock of company medical supplies. The company is subsisted on the British ration, which is adequate though monotonous. We receive British cigarettes, but no American brands. Mail service has, to date, been unsatisfactory.

The men get along very well with the civil population. What trouble we have had may be directly attributed to some men failing to appreciate the potency of native wine. The civilians appear to have a much higher regard for our troops than for British troops.

- END -

APPENDIX X

Interview with Lt. Col. John K. Waters, Commander of 1st Battalion, 1st Armored Regiment (Light Tanks), 1st Armored Division, CP, 24 miles SE of Oran, December 29, 1942.

Col. Waters: We landed at Oran from Maricobas (landing boats) on November 8, 1942. We were actively employed in the occupation of Oran and vicinity on November 8-9-10. At the completion of this operation, by a combination of marching and rail to Souk-Ahras, we were actively engaged in the Tunisian theater until December 23 when we were returned to the vicinity of Oran for rest and refitting.

At Oran we were employed as a reinforced battalion with tank destroyers, infantry, and reconnaissance engineers. At the Tunisian front, were employed as a battalion with no attachments. At Arzew, where we landed near Oran, the Reconnaissance Company of Combat Command "B" got ahead and we followed and captured the airport using tank destroyers, infantry, and reconnaissance engineers actively. They all played a very important part in the thing. Everything ran just as in the book. During this action we ran into a company of French tanks, Model 1935, Renaults, armed with 47's and our company of tank destroyers destroyed 14 of them. We lost one tank which was later recovered. It was a shame to shoot at these French tanks as we could almost see the shells go right through their thin armor. It gave our men lots of confidence. Our battalion captured the Tafouri airport.

When we arrived at Souk-Ahras, I reported to Colonel Hull, the Commanding Officer of the British Force, which is a part of the British First Army. Tanks moved overland to Lekef and moved overland to Souk-el-Araba. The battalion moved from Lekef to Beja from which place we jumped off on our first mission. This was a move overland to vicinity of a valley 12 miles south of Mateur, in vicinity of Sidi-bou-Acid. We were to establish a tank-infested area there. On our way to the Chouigui-Djeida area, we ran across a German airfield, which was unprotected, and destroyed 20 Stukas. In the meantime, we destroyed three assault guns (Italian). At dark, we withdrew to our bivouac area about eight miles to the vicinity of Tebourba, along the El-bab road. On reporting my position to the British Force Headquarters, I was told that I was in the wrong valley. They ordered me to move one company during the night immediately back into the valley where we had been, then move the rest of the battalion before daylight over Chouigui Pass and there into reserve. We accomplished the whole thing and at 0830 some German tanks appeared on the scene. We were sitting pretty for them. We did not have to move as one platoon of tanks guarded the pass behind the hill and one platoon on the other side. Another platoon was situated on the other side of the road in a gully, when the German tanks advanced down the road, 6 Mark IV's and 3 Mark III's. They got within 300 yards of the platoon on the hill when it opened up on the German tanks. The going was pretty tough stopping them, and I ordered another company and assualt guns in and destroyed 6 Mark IV and 1 Mark III.

We lost six tanks doing it. Called upon the British Commander to help me out with some six-pound tanks which moved around to cut the Germans off. They got one Mark III. Only one German tank got away. After that battle we really thought our light tank was a good tank. We then had to move to meet a counter-attack that afternoon which did not amount to much. During these battles we were undergoing lots of bombing. Once an hour was average. In my opinion, the Germans had the air privilege. Then we moved back in reserve four miles to another area. However, we had to send two companies out each day to block roads here and there. The British Force had 50 tanks with them making a total of 100 tanks on the scene.

The British Force is somewhat like a combat team and was commanded by Colonel Hull. It consisted of the 17th and 21st Lancers, 1 Battalion of the 175th FA (-1 Btry), 1 Battery of the 106th Coast Artillery (AA), 1 Darbyshire Yeomanry. They have two peeps, two scout cars, and two armored cars in each platoon. The 5th Engineer Battalion, 1 Battery of the Royal Horse Artillery and one Battery of the 77th FA fought on column and none helped me except the company for which I called. This all took place on November 25, 26 and 27. About November 28, was ordered to Chouigui-Tebourba area and set up plans to move to Tunis. They called it off at 2:00 AM. The next day 35 German tanks appeared, and seemed to increase in number each day. They went to work on Tebourba. After four days we were sent to Mdeja-el-Bab, where we were again told we would be in reserve. Reverted to our Combat Command "B" and were told we would maintain our vehicles but said we would send 56 tanks daily for reconnaissance on right flank. Eight tanks sent the night before did 75 miles of reconnaissance the next day with a British outfit. Germans were using M-III with armored cars -- would not stand to fight. This went on for four or five days, and Combat Command "B" was forced to withdraw. We were again attached to a British Brigade and used for patrolling, which lasted for about five days. We lost one or two tanks from strafing and one from running over a French mine. This one was pulled back and in three hours was running again. We then pulled out and moved into Souk-el-Khemis where we refueled and turned over all vehicles to Combat Command "B" who re-distributed them. We were all brought back here. We turned over three officers and 13 men to bring the 13th Armored Regiment up to strength.

- END -

Comments of Executive Officer, CCB, 1st Armored Division, Tebeursouk, January, 1943, Office Training Remarks; Lt. Colonel E. A. Russell, Cavalry.

1. Combat Command B, 1st Armored Division is now in corps reserve.

2. When we were in combat, we used a Tank Destroyer Company, which had lost its equipment, as a casual and MP detachment. It took care of stragglers and replacements. It is still functioning in this way.

3. S-1 reports are utilized in actual combat. They are submitted by radio or messenger.

4. The Army Postal Service has not yet caught up with us. This is probably due to the Division being split.

5. We have had no trouble with the Civilian Government or civilians. Our MP's work with the Civil police.

6. All graves registration and burial to date has been done by the Chaplains.

7. Troops of this command are not allowed to associate privately with inhabitants, nor are they allowed in active places of worship.

8. The G-1, in combat, is with the forward echelon of the Headquarters.

9. We have no post exchanges here. Although we have gratuitous issue of cigarettes, their delivery has been sporadic, and I recommend that units bring supplies of cigarettes, writing paper, etc., to the theater.

10. We have deviated in the present system of promotion in that we do not necessarily adhere to the T/O for any particular or individual unit. The total number in each grade allowed by the T/O for the entire command is not exceeded, however.

11. There is no OCS in the theater. We have commissioned in combat several enlisted men. Corps or Allied Force issued the order upon our recommendation.

12. It is possible for unit funds to purchase locally some oranges, tangerines, eggs and chickens to supplement the field ration.

13. We had a great deal of difficulty in identifying friendly and enemy aircraft. Now there is much less difficulty because we fire upon aircraft only when they attack us. We employ air sentries, OP's with

telephone and radio communication and rely upon camouflage and dispersion.

14. We were issued maps before we left England. The 1:50,000 and the 1:200,000 maps are the best. We have had no aerial photographs.

15. I believe that units coming to the theater should be supplied with officers and enlisted men capable of speaking French, German and Italian.

16. We have taken little or no protective measures against chemical attack. No German prisoners that we have captured had any gas masks.

17. In combat, all of the principal staff are with the forward echelon, which is well up. The G-4 Auto is also there. The A.G. runs the rear echelon.

18. The roads and bridges in the theater are excellent. Practically all of the bridges will carry out heaviest loads.

19. We have had no close support from our Air Corps.

20. We have had no opportunity to operate as an Armored Force unit. Our force has been employed under British control and dispersed. This applies to the Artillery as well as Tank and Infantry units.

21. All fortifications used have been of the hasty type.

22. The light tank is excellent for reconnaissance in force, exploitation, wide harassing attacks and hit-and-run attacks. It is no good for tank vs tank combat.

The M-4 tank is the best tank in the theater.

The 81mm mortar is very accurate and very effective against personnel. The 60mm is excellent for close support and is easily carried by hand.

The 105mm SP Artillery is very effective and an excellent weapon.

The 37mm SP is not a satisfactory anti-tank weapon. It has too high a silhouette, it is not mobile, and there is insufficient space in the vehicle to enable the crew to properly handle the gun.

- END -

APPENDIX XII

Comments of Commanding Officer, 1st Battalion, 6th A.I.R., near Tebourouk, Tunisia, January, 1943. Officer making remarks: Lt. Col. W. B. Kern, Inf.

My battalion was in contact with the Germans for ten days in December, in the vicinity of Tebourba. During this time, we were twice attacked by the German forces.

At no time did we have the opportunity to employ the battalion as Armored Infantry as taught by our Armored Force Schools. We were on the defensive all of the time that we were in contact. The only time that we have operated with tanks was in the landing operations at Oran.

Maintenance has been by company and by the battalion section of the regimental maintenance platoon. The Maintenance Company of the 13th Armored Regiment has given us much valuable assistance. On December 6th, when Company "C" was overrun by German tanks, all but one of the battalion maintenance section were lost.

The battalion medical section has been very satisfactory. The equipment had to be placed on the ground at the aid station in order to use the half-tracks for evacuation. At one time, we had to even use combat vehicles for evacuation.

I had no opportunity to use the battalion reconnaissance platoon as such while we were in contact. I lost one of their 1/4-ton trucks in a French mine field and the half-track never got to us from Oran. The remaining three 1/4-ton trucks were used to evacuate wounded. Back here in reserve, I have been using the platoon continuously on route and area reconnaissance.

My radios have worked exceptionally well. They worked better in combat than at any time in our previous maneuvers. I believe there should be a spare command car in the battalion headquarters, in case the commanding officer's vehicle is knocked out. I am having as many men as possible trained in flag semaphore code, to be used when radios are knocked out. In combat, all messages are sent in the clear.

Our 37mm guns were ineffective against German tanks. On December 2nd, the Company C 37mm SP gun knocked out two German 8-wheeled armored cars.

I have used the 75mm assault guns in direct fire and indirect fire. They are good guns for use against personnel, machine guns, mortars, etc. I believe the battalion headquarters company should have an AT platoon equipped with 3-inch SP guns.

I have had direct artillery support, but it was effective only when the artillery forward observer was actually up in the front lines. On one

occasion, an artillery battalion was in support of both my battalion and the 2nd Battalion. No forward observer was with my battalion, as a result of which I received very little support.

It is my opinion that the machine gun of the M-3 half-track is too high. We have had quite a number of gunners killed and wounded. I believe some sort of a shield be put on the gun to protect, to some extent, the gunner.

We had considerable trouble with our Ml rifles, because of the mud. However, I believe the men have learned the necessity of keeping the gun clean and that we will, in the future, have less difficulty.

We use individual fox holes initially, which are enlarged into slit trenches as time permits. The post-hole type is the best where there is danger of armored attack. After having had several direct hits by dive bombers on slit trenches for more than one man, we now make it a rule to dig individual fox holes entirely.

During the engagement of December 3-6, I used a platoon of half-tracks to counter-attack, employing them as tanks against a German company which had penetrated the front line and which had no anti-tank weapons. The attack was highly successful.

The Germans attack in line of platoon columns, preceded by light machine gunners and mortar men in lieu of scouts. These machine gunners and mortar men made excellent use of cover and I never saw one of them in the approach. My mortars, machine guns, and assault guns, however, were able to execute murderous fire against their lines of platoon columns.

The 81mm mortar is much more effective than the 60mm. I believe the mortar squad of the rifle platoon should have both weapons - the 81mm for defensive and the 60mm for offense, where mobility is of prime importance.

The Germans almost invariably precede their attacks by 20 minutes with a Stuka attack and by 10 minutes with an artillery preparation.

The Germans appear to be making an effort to abide by the Geneva Convention. When Company C was overrun in the December 3-6 engagement, the German tanks were followed by armored first aid vehicles. These vehicles I was able to observe through my field glasses. They carried large red cross flags and adminstered first aid to my men as well as Germans.

I found that after Company C had been overrun and I had ordered a withdrawal of the battalion to a new position in the rear, reorganization was very difficult. It required practically all night long to reassemble C Company.

On the defensive, except for my company and battalion radio vehicles,

I keep my half-tracks well to the rear. My battalion trains I keep back out of light artillery range.

My companies were unable to bring sufficient athletic equipment. We notice its lack a great deal now, back in reserve.

- END -

HEADQUARTERS
ARMY GROUND FORCES
Army War College
Washington, D.C.

319.1/36 (Foreign Obsrs) (S) GNGBI
(3-5-43)

March 5, 1943.

SUBJECT: Observer Report.

TO: Commanding Generals,
Second and Third Armies,
III, IV, VII, VIII, IX,
X, XI, XII, XIII and XV Corps,
II, III and IV Armored Corps,
Airborne Command,
Amphibious Training Center,
Antiaircraft Command,
Desert Training Center,
Mountain Training Center,
Replacement and School Command,
Tank Destroyer Center,
Chief of the Armored Force.

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1. Inclosed report of Lt. Col. G. E. Lynch, G.S.C., Observer from Headquarters Army Ground Forces to North Africa, for the period December 30, 1942, to February 6, 1943, is furnished herewith.

2. Distribution to divisions has been discontinued by the Commanding General, Army Ground Forces. Reproduction and distribution of observers' reports to subordinate units is not authorized.

3. The data and recommendations contained in this report represent the views of the individual observer and are furnished for information only.

4. Changes in training doctrine as enunciated in War Department publications, which are necessary because of the information contained in observers' reports, will be published by the War Department. Changes in training directives of this headquarters, which are necessary because of information in observers' reports, will be promulgated by this headquarters.

By command of LT. GEN. McNAIR:

J. R. Dryden
J. R. DRYDEN,
Lt. Col., A.G.D.,
Ass't Ground Adjutant General.

1 Incl - Report of Military Observer.
(Information copies to WD GS, SOS, AAF.

SECTION I

G-1 Matters

Contents

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1. See Inclosure 1 as to battle casualty statistics of 60th C. T. of 9th Division which landed at PORT LYAUTEY, MOROCCO, Dec. 8 and fought until Dec. 11, 1942.

2. Water for drinking must be treated due to impurities and also since many of the streams have a high Epsom Salts content.

3. a. Troop areas and field bivouacs are in good sanitary condition. I have encountered no unit where any common disease had developed except the 60th C. T. at PORT LYAUTEY which has 468 men suffering with malaria. This represents about 10 per cent of the command and is serious. Men suffering are being treated with quinine, but there is not sufficient quinine to give preventively. The Medical Corps is working on mosquito extermination in that area, using the conventional methods.

b. The occurrence of respiratory diseases is normal.

c. An Air Force base squadron located at THELEPTE, TUNISIA reported 10 men infected with typhus.

d. Although the civilian population has an alarming venereal rate, the Army venereal rate has not increased. The usual prophylactic measures are current. However, some units who were not far sighted enough to purchase a stock of prophylactics prior to departure from the U. S., find they cannot be purchased in NORTH AFRICA and strongly recommend that this omission be avoided by other units prior to sailing.

4. a. Laundry and bathing are difficult. Apparently no QM units for these purposes are present. Since soap is scarce and cannot be purchased, the individual's laundry problem is difficult. In cities, natives can be hired for laundering, or the laundry sent to cleaners. Bathing, even indoors, is a cold water proposition in most places and due to the chill of the climate up till this time of year is not popular. While hot water systems exist in abundance, there is little fuel in NORTH AFRICA. Troops in the field bathe out of buckets and tins. Stream bathing is not recommended by the Medical Corps as many streams contain parasites which enter the body. Turkish baths are used where present.

5. The 6th Arm'd Infantry, which has been in the front for nearly three months and during which time they have lived entirely on British "Compo" ration or American "C" ration, complain of soft and sore gums. The Medical Officer of the unit believes supplementing the tinned ration with Vitamin "C" or a complex vitamin that would correct this deficiency.

6. In some units sanitary control is exercised over local houses of prostitution by military medical offices - the control is accepted by the civilians in order to retain military trade. No control appears to be exercised by civilian authority except that incident to tax collections and the maintenance of order. Prophylactic stations are maintained, but not well advertised; I have not seen one.

7. All units use their athletic equipment extensively. There is, however, no large athletic program in the sense of organized unit leagues, composed of pro or semi-pro players. The 9th Division is engaged in an organized athletic instructive program, emphasizing boxing with an eventual goal of conducting high class boxing programs. Facilities such as arenas, courts, diamonds, swimming pools, etc., are practically non-existent in NORTH AFRICA.

8. I have encountered only one mobile motion picture unit. Most units have no motion pictures of any kind. Some hire local theatres and pictures for special occasions. The number of civilian theatres is very limited, the films poor, and the narration in the French language.

a. The 9th Division has organized local talent, "Variety" shows, a service club, a local bath house, a division-owned P.X. and a "coffee shop" (which the Red Cross is scheduled to take over shortly). Band concerts are frequent, the Division Band travelling from unit to

unit, so that even though dispersed, all of the troops of the division located in MOROCCO hear a concert once a week.

b. The only newspaper of timely issue is the "Stars and Stripes". This is a fair newspaper, but carries very little news of the U. S. Units are receiving by mail, magazines and newspapers which had been subscribed to prior to departure from the U. S. If future shipping requirements will allow, each company should average a subscription list of about 30 magazines and newspapers, balanced between dailies to monthlies. The "Readers' Digest" is exceptionally popular.

c. Due to many "B" kits being rifled in transit, the portable radio supposed to be contained therein has never reached many of the troops that sailed from the U. S. (as opposed to sailing from U. K.). These are wanted badly everywhere. G-1, Hq. A. F., states he could use 5,000 of these sets. If such sets are shipped, replacement parts should accompany each set.

d. The USO is not present in this theatre. Recreational facilities are limited to those provided by the Army.

9. Only one-half of one per cent of mail spot checked by censorship authorities contains indications of poor morale. In general even this small percentage is devoted to complaints about mail service.

10. Post Exchange facilities have been non-existent in combat units. Since civilian stores have negligible stocks, the need of mobile post exchanges is strongly felt. Cigarettes, gum and some candy are issued with the ration. This does not fill the need for the many other things a soldier requires. The candy issue is always hard candy or "Life Saver" which do not satisfy the craving for chocolate sweets. The British "Compo" ration satisfies this craving by inclusion of a hard chocolate bar per man per day. Some units stocked a small amount of some P. X. items prior to departure and have not regretted it.

11. The operation of the "safe arrival card" system in the case of troops landing on the Atlantic coast of MOROCCO was initiated, but not completed. Many officers and men had not heard from their families as of January 25, so have no means of knowing if families are cognizant of their safe arrival. In other cases, families have been heard from, but had received no news of the safe landing of the troops. This is very unsatisfactory. It is the concensus that it would be much preferable to mail all safe arrival cards as scheduled and then follow, when necessary, with death notices, being certain, of course, that death notes do not precede "safe arrival" notice.

12. a. The method of handling of P. W. is difficult to define. Means and methods have been devised to meet the occasion. Organic M.P. units have not been large enough to handle the load in peak times. This is probably proper, however, since to maintain at full strength M.P. units large enough to care for the maximum of prisoners of war would be wasteful and uneconomical. Service troops, such as Engineers, have been

called on in NORTH AFRICA to perform P. of W. guard duties when the flow of prisoners became heavy.

b. Guards for P. of W. are detailed as follows:

(1) For overland movements:

1 - 20 Italians.
3 - 20 Germans

(2) For overseas movements:

1 - 15 Italians
1 - 10 Germans

c. So far, no direct contact has been made with the enemy concerning P. of W. All such dealings have been handled through appropriate diplomatic channels and the Red Cross. If authority would be granted by the War Department, there is a Swiss Legation in TUNIS through which direct communication regarding P. of W. could be established. No exchanges of P. of W. have been made as yet.

13. Religious services are held in the same fashion as on maneuvers in the U. S.

14. Burials have been by unit, the Regimental Chaplain usually following the battle closely with a detail of Hq. personnel, effecting prompt burial and recording. Later a Graves Registration Company completes records, and the combat unit effects transfer of the buried to a permanent cemetery. Only one Graves Registration Company is in NORTH AFRICA.

15. Troops are housed in shelter tents in almost all cases. A few troops in and around larger headquarters located in cities are housed in buildings. This is an exception to the rule.

16. The attitude of civilians toward our invasion of AFRICA is puzzling. Some French people and the French army are enthusiastic.

a. The attitude reflected by the French seen on the streets is one of indifference. There are many active Nazi sympathizers among the French. This I ascertained from loyal French civilians.

b. The Arabs are indeterminate. They go along ostensibly with the force in power in the theatre, but there is no sincere feeling by them for the French or us. This undoubtedly reflects the French colonial policy of a hundred years wherein the Arab has not gained much. The French are direct and brutal in their dealings with the Arabs, possibly necessarily. I would not trust the Arab in any case.

c. The Arabs of TUNISIA are reported actively sympathetic to the Nazis.

17. Units in this theatre find themselves embarrassed by the requests of a great many soldiers to make out allotments or life insurance deductions or both, after arrival in the theatre.

a. These soldiers had been given the usual opportunity to accomplish these steps prior to sailing, but for various reasons such as the failure to realize the 20 per cent increase of pay on foreign service, an over-estimation of the possibilities for spending money in NORTH AFRICA, and a lack of appreciation of the possibility of death, have all led to failure of men to properly arrange their financial matters.

b. The problem should be brought more keenly home to soldiers prior to departure. Various sources in the theatre estimate that a soldier of any rank has difficulty in spending more than $15.00 in U. S. money a month. Even though in a travelling capacity, and paying for my meals, I was only able to spend $65.00 during the entire month of January. Seventy-five (75) dollars per month is as much as any officer on troop duty should need for his personal expenditures.

18. Mail is slow in reaching the troops. This is true in all echelons. Some letter mail requires three months before delivery. I estimate six weeks to two months is the normal period of travel of mail before delivery. The principal cause of this delay, I believe, is due to the routing of much of the mail through ENGLAND, although the 9th Division, whose mail comes direct across the Atlantic, makes the same complaint of mail taking too long.

a. There is no "V" mail service in NORTH AFRICA yet, although it is planned to set up "V" mail stations where equipment is received.

19. a. U. S. soldiers conduct themselves well and preserve as neat an appearance as conditions allow. Since whiskey and other hard liquors are unobtainable by most soldiers, those who drink, are limited to the wines of the country, which are not strong. I have encountered no evidence of any particular feeling of soldiers towards M.P.'s and have seen only one case of a soldier resisting M.P.'s.

b. Drunkenness appears to be the most common cause of courts-martial, although most units state courts-martial proceedings are fewer than in the U. S.

c. The proportion of colored troops (U. S.) in NORTH AFRICA is small and has caused no differences either with white units or civilians. The only difficulty I have observed is in connection with "houses of prostitution"; white soldiers will not tolerate black ones using the same house. Sometimes there is only one such house in a small garrison town. The answer is the starting of another such house. Actually, the number of men who use these houses is not large. In PORT LYAUTEY, a company of Infantry which I visited was allowed four admissions per night to the local "house". The company did not require even this number.

20. a. Replacements scheduled prior to the operations are not arriving in numbers requested. (See Incl. #2)

b. Since November 8, no troops have been relieved from combat or sent to rest areas. (Present date January 31.) Company B of the 701st T. D. Bn. now in action near PICHON, TUNISIA is feeling the strain. This unit has seen more combat and been at the front longer than any other I encountered. It is concerned and somewhat worried about its disposition. It has had 25 men killed in action, and has earned a high reputation. In addition to having been dive bombed by German planes it has also received an attack by U. S. P-38's.

c. No leaves or furloughs have been granted.

d. The echelon of battalion commanders has suffered heavily in losses due to relief for demonstrated unfitness on the battle field. I know of nine infantry and armored battalion commanders having been relieved for this cause during the landing action and during action in TUNISIA. Clearly indicated, however, is the need for more careful selections and training of Bn. C.O.'s.

(1) These officers are in an echelon which because of its position in the chain of command does not require them to perform routine physical conditioning, but when on the battle field to have at least stamina and endurance to function properly.

(2) Many of these relieved would doubtless not have been in Bn. command position had they, before receiving that command, been required to demonstrate their skill, judgment and physical endurance by a practical test designed to draw on these qualities for acceptable solution.

e. Replacements to some units were effected just prior to sailing dates. Some were "ne'er-do-wells" and most were felt to be a hindrance in their new organizations, which would have preferred to be under strength rather than burdened with incompletely trained or unknown men, on the eve of battle.

21. A company of about 200 WAAC's has reported for duty at Hq., AF. Officers I have talked to, while personally pleased at the WAAC's presence, feel that they are inappropriate in the theatre and cause some difficulties, i.e., armed guards are required to escort WAAC's from work to billets at night, during darkness.

SECTION II

G-2 Matters

Contents

(See Incl. #8, "Airborne Matters" for further G-2 Material.)

1. a. Combat intelligence units in the theatre have not had a good opportunity for proving themselves. In the landing operations, the bulk of intelligence had been obtained by WD, by the British and by Air Intelligence units prior to the action. During the landings, communications difficulties obscured the results of "intelligence work". At ORAN, for instance, the Corps Cavalry Regt. was not included in the landing troops. 1st Division Reconnaissance Troop was present as well as lower Intelligence agencies, but the coastal mountains surrounding ORAN and spray damage to radios are blamed for the difficulty of Central Task Force and 1st Div. Hq. in receiving "intelligence" sent by radio means. Asst. G-2, Lt. Col. Sloan, GSC, of Center Task Force stated that he at his post on a British Navy Carrier outside of ORAN Harbor, December 8, 9, and 10, received by ship's radio, messages sent by Bn. and Regt. C.O.'s to their next higher Hq. which were not received at all by the Hq. to which addressed.

b. The present Divisional Intelligence chain will require further actual use as a team in normal ground operations before a change should be considered. The operations in NORTH AFRICA which I have reviewed have been "Task Force" operations wherein the complete Division Intelligence system has not operated as such.

2. Interpreter and interrogator personnel was not provided for the Center Task Force at ORAN, nor for the Eastern Assault Force at ALGIERS. This lack was felt. A hasty team was attempted to be built in C.T.F. Hq. by special duty detail. However, this team of one officer and about three men were inadequate for the task of serving a corps. French prisoners at

Oran were not interrogated at all. The team was used principally in clearing aliens who sailed after the surrender of the city. C. T. F. likewise had no interpreters except those found by accident in their own ranks. Interpreters have been most valuable to all units down to include the company, but it has been a matter of luck rather than design when a unit found itself in possession of an interpreter.

a. If we are to fight with the French as allies and in countries where French is spoken by all of the people, the cultivation of the language in intelligence echelons particularly, and in all echelons generally, will be worthwhile. The soldier who speaks even a smattering of French is a help to both his comrades and to his organization.

(1) I recommend that the opportunity of refreshing and advancing the knowledge of the French language gained by many of our soldiers and officers in high school and college be exploited by inclusion of a continuation of the study of the language by that personnel in scheduled training programs, where the unit is destined for service in the European theater.

b. 9th Division Headquarters express themselves as highly satisfied with the interpreter personnel furnished them for the operation by Camp Ritchie. This personnel was an active help in battle, and is continuing to be very useful in working with the civil administration of the PORT LYAUTEY area.

3. A battelion of the 60th Inf. states the need for a larger intelligence unit in the Bn. The present section was not large enough to perform the required scouting and intelligence missions at PORT LYAUTEY, with the result that rifle company units were called on for those duties. This was thought unsatisfactory in that the strenght of the rifle company was thereby depleted and personnel selected to perform such missions was not trained for the task.

4. Better "intelligence perception" by the Bn. Commanders at the defeat of C.C. "B" near MEDJEZ EL BAB, December 10, might have prevented the large materiel losses incurred. Two Bn. C.O.'s on this occasion reacted to rumors, failed to conduct reconnaissance or to confirm battlefield rumors, and thereby failed to act properly.

5. Prisoners of war were handled in the landing operation as prescribed by field manuals at ORAN, December 8 - 11, except that undesirable short-cuts, delay in movement, inadequate preparation for reception of prisoners, no transportation for movement of key prisoners, no interrogation of prisoners, caused the system laid down in field manuals to be ineffective.

6. a. Camouflage, cover and concealment were excellent in all the units I visited. However, in some sections of Algeria and Tunisia, the country is of such a nature that dispersion and cover are the only possible means of protection from the air. It is noticeable that many units have not applied white stars to all vehicles, nor the type vehicle markings prescribed by AR 850-5. The 9th and 34th Divisions, also 2nd Armored Division all wear their respective Division shoulder patches.

b. Road distances of U.S. truck columns are uniformly good -- 150 to 300 yards between vehicles. This is a necessity as the casual German fighter or light bomber plane despises no target, however small. While never attacked, I encountered several instances where lone ¼-ton trucks and other types had been blasted off the road by German aircraft (usually fighters).

c. Germans and Italians both use some camouflaged shelter tents.

7. a. In the Center Task Force aerial photos in mosaic and pin-point form were issued to troops for the landing operations. However, such aerial photos covered only objective areas and were not inclusive of all the ground the troops had to traverse or fight over. Consequently, troops preferred the maps which had been issued at the same time and were accurate and inclusive of all areas to be operated in. The mosaics were of a scale 1/15,000 and of very poor legibility, greyish and indistinct in detail.

b. Maps of a scale of 1/25,000 and 1/50,000 were used by artillery to a limited extent for unobserved fires. This required the preparation of templates and other firing aides on the scale of 1/25,000, since much equipment on hand in American units was designed for use with 1/20,000 maps. Most fires, however, were observed fires, using F.D.C. methods.

c. Obliques of all beaches had been made in Sept. -- Oct., 1942. Sand table models were then made from the obliques and large-scale photos made of the sand table models, prints of which were distributed down to include companies.

d. Maps and photos for the landing operations were adequate (complete sets down to include companies). However, during the operations of U.S. troops on the Tunisian front, the supplies were not enough, i.e. 601st T.D. Bn. has 15 sets of maps of their sector of the front, scale 1/200,000. Since the Bn. is dispersed over a rather wide front (50 miles), individual use of maps is increased.

(1) Since requests for additional maps were not filled, the battalion has had to resort to reproducing the more necessary maps by hectograph methods, and to supplementing existing maps (1/200,000) with sketches at larger scales.

e. Maps in use range from 1/25,000 to 1/200,000; all are four or more colors, with complete marginal data. Both contoured and hachured types are in use. All maps for C.T.F. were furnished by the British Army from files in London. (Source of maps for Western Task Force operation is unknown.)

f. Maps for the landing operation, C.T.F., were not distributed to troops until four days out to sea. All maps were bundled, sealed and locked in the ships prior to departure from England with instructions to open after four days at sea. Normal Engr. distributing agencies were used in distributing 55 tons of maps to Center Task Force units.

8. Due to limited photographic and reproduction equipment and supplies in North Africa, training in photo reading is restricted to intelligence operations and training.

9. Censorship is operated in the routine manner, the theater commander providing operating personnel.

a. Mail censored by company officers receives a spot check from the theater censor.

10. C.S. systems are functioning, but on a much looser basis than in the U.S. No positive cases have been uncovered in the II Corps since entrance into Africa. All C,S personnel are organic, none furnished from above, except a security detachment of three officers and eighteen men in II Corps Headquarters, which is not actually C.S., but Hq. security and counterintelligence.

11. Surprise in the landing operations was obtained with almost complete success. Without exception, the officers I have talked with feel that had the surprise element not been present, the expedition would have failed. The proof of the degree of surprise obtained was apparent in the lack of resistance at any of the landing beaches, except by coast defense batteries and aircraft. No unit I visited met Infantry resistance on any beach.

12. The Germans have photographic reconnaissance elements. Their reconnaissance missions appear to work on routine. A reconnaissance plane overhead during the morning is a presage of a bombing that night, or the next.

13. Weather in the theater was, until about January 5, wet and cold. Since that time until January 31, fair and warmer weather has prevailed. The nights have been cool to cold, the days cool to warm. Forty degrees F to sixty-five degrees F will cover the temperature range except in the mountains above 3,000 feet where temperatures of thirty degrees are reached. The temperatures are deceptive, in that moisture in the air causes the cold to appear more intense.

SECTION III

G-3 Matters

Contents

(See Incl 8 concerning A/B Matters).

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1. In the Center Task Force which landed at Oran December 8, 1942, there is general criticism of the loading of ships in England. Ships were not "combat loaded" as we know the term.

a. In many instances, the prime movers for artillery were loaded in different ships from their howitzers.

b. Drivers of vehicles were not carried on the same ship as the vehicles.

c. Some of the Navy personnel in charge of small boats were new to the task and were not the same personnel who had been in the rehearsal, with consequent disorder.

d. After the landing of the first wave, small boats returned to the wrong ships and the planned order of unloading was unable to proceed, resulting in some cases of barracks bags arriving on the beach before all combat troops were unloaded.

2. This suggests the need of more complete identification between small boats and transports. Method of loading should also be the dictate of the Army rather than the Navy or the Longshoremen.

3. II Corps staff officers state that in future similar operations against stronger opposition than was met at Oran, a greater amount of Armored Force and Field Artillery should be included in the initial landing force.

4. a. Field Artillery used mostly direct fire and forward observer methods of fire at Oran and at Port Lyautey. Battalion F.D.C.'s were operated. Map firing was used on 1/25,000 and 1/50,000 maps to a limited extent. The 105 Howitzers were landed at Port Lyautey without much difficulty, in surf described as variously from 4' to 10' in height. The French Artillery near Port Lyautey who received the fire of our 105 Howitzers were, after the battle, enthusiastic in their praise of the powers and effect of the weapon.

b. Fifth Army is operating a Field Artillery Pilot School near Oran.

c. The 13th FA Brigade claims development of a method of action which hastens the employment of the brigade and which renders useful assistance to the Artillery of the Divisions being supported.

(1) Brigade has improvised sound and flash division detachments of 3 officers and 70 men each. The detachment accompanies a division into action serving the division in sound and flash matters, and when the brigade enters action, all survey and target locations made by the detachment and already correlated by the detachment are immediately available for the use of the brigade regiments.

d. The medium battalion of FA of the 1st Division was equipped with 75mm pack howitzers while at sea, landed with these weapons during the initial landings and rendered noteworthy support until Oran fell. The 105mm Howitzer Battalions were landed during the second and third days of this action, some of them not in time to act before the Armistice.

5. Every infantry unit questioned remarks that it went ashore too heavily laden; that is, equipped with complete combat equipment, extra rations, as well as extra ammunition, stripped pack, gas protective equipment. The general feeling is that the rifle soldier should carry only emergency rations, normal ammunition (200 rds), rifle and bayonet, water (1 canteen), first aid equipment, blanket, entrenching tool, and web equipment, appropriate clothing worn, helmet, relying on resupply if the action should exhaust what he carried. Crews of weapons carried submachine guns and ammunition which were thrown away later since the crews had to carry their principal weapon and its ammunition by hand (9th Div). Estimates are that the individual soldier carried

90 Pounds of equipment ashore, some of which was abandoned between beach and objective.

6. a. Units not on the front are engaged in small unit training to correct deficiencies noted in the landing fight. (See Incl. No. 3, Training Schedule, 9th Infantry Division).

(1) Large unit maneuvers are not contemplated due to the shortage of transportation and the uncertainty of the situation.

b. Firing of all weapons is being conducted with limited allowances of ammunition.

i. e. W.T.F. Allowances: Period until further shipments allow expansion of these allowances:

M1 Rifle - 56 rds
.30 Cal. MG 1,000 rds
75 How. - 50 rds.
Other weapons in proportion.

c. Booby trap construction, detection and removal requires more attention during training periods in the U.S., according to units of the 9th and 1st Divisions and 2d Bn, 509 Prcht.

d. Our troops have not been good at street fighting (Center Task Force Comments).

e. At Oran, there was considerable reluctance of infantry troops to close with the enemy; also a reluctance to move forward under the fire of our own supporting Army and Navy guns. Troops of the 1st Division were inclined to be pinned to the ground by fire of rifles or MG 900 yards away, requiring considerable urging and example from their officers, to move forward.

f. Some soldiers in the theater have never fired their principal are--this I ascertained by questioning individual soldiers at random. This fact is a result of two things:

(1) The soldier simply was never required to fire his weapon prior to leaving the U.S.

(2) Due to reorganization and losses in the theater the soldier finds himself on a new job, using a different weapon.

(a) While I can report no definite percentage of the troops who find themselves in this situation, nevertheless the occurrence of any percentage could be avoided by careful record keeping and continuous supplemental firing seasons by units in training.

(b) The change in position could be anticipated by having all personnel fire qualification with one weapon besides his principal weapon during basic training. Little opportunity exists in the theater for qualifying men in a different arm due to change of job.

g. Qualification in the use of the rifel grenade and the rocket-launcher should be required of a number of alternate operators in the organizations while in training in the U.S. While most units in North Africa have the rocket launcher and landed with it, very few practice rounds have been fired with it. In W.T.F., due to limited supplies, two rounds per launcher have been allotted as training ammunition. The launcher should be a potent weapon, but not without more actual firing of it. There are no definite reports of tank casualties caused by the rocket.

h. Physical conditioning is being emphasized in all units. Due to heavy guard and other duty requirements, this and other training is generally "staggered".

i. There is a conflict of thought and action on the proper reaction of armed infantry troops attacked by aircraft while on the road. Some commanders have become so impressed with the power of airplane strafing that they feel it is best to simply take cover and not return the fire. I don't agree with this concept.

(1) Troops which have sought their slit trenches during a German bombing should not leave them soon after the attack is thought to be over unless their mission requires it, as there are frequently two or more waves of bombers at various intervals.

j. An amphibious school is now being operated by U.S. forces under General Truscott at Oran for the instruction of U.S. and French troops in landing operations.

7. a. Commercial wire circuits provide much of the communication means being used; these are being supplemented by military construction as fast as possible. Distances are so great and disposition of units so dispersed that radio communication is not always possible and wire construction is slow.

b. Radio communication was spotty at all landings. SCR 536 and 511 suffered from surf and water. Commanders resorted to using high ranking staff officers as observers to report progress and to communicate orders.

c. 128th R.I. Company states that they succeed in breaking many German codes because of "slips" in the "clear".

(1) U.S. units which the 128th R.I. Company moniters in its spare time, exchange call signs too frequently; the average net making such an exchange about every fifteen minutes. Such procedure renders the determination easy by German opposing units of the tactical system to which they are listening. German units exchange call signs each two hours at most.

8. Mixed commands of French, British and U.S. troops on the Tunisian front are common. There are apparent efforts to reorganize units into their national entities, but the process is slow.

9. a. At Oran, air-ground support was furnished by 60 British carrier-based Spitfires and Albacores. Our air-ground methods were used with good success. A feature added to the conventional methods, was having a high-ranking staff officer of the ground forces present on the carrier to assist in briefing pilots prior to take-off. This is thought to have helped considerably in the prevention of friendly air attacks on our own troops. In one case at Oran, three Spitfires which had not been briefed by a ground officer attacked U.S. troops on the beach at Arzew - all three Spitfires were brought down by ground troop fire, including .50 caliber AA.

b. Air-ground identification is poor. When an Air-Ground Support Command is operating in support of a unit, the methods taught in our manuals are used. However, most combat aircraft are not a part of the air-ground support Command and it is those who need more coordination with the ground forces. There has been at least one occasion on the Tunisian front where U.S. Fighter planes attacked U.S. ground forces, (Co B, 701 TD Bn). The causes are:

(1) Some vehicles do not bear the white star on hood.

(2) Some vehicles are so dirty or muddy that the white star is indistinguishable.

(3) Pilots, when over the front, attack ground targets not clearly identified.

(4) Ground units lose or do not keep prepared for use these prescribed means of identification such as the "Very Pistol", panels, white sheets, etc.

(5) Fighter pilots are not well trained in ground troop identifications. (These comments from 12th Fighter Command and my own.) Failure of ground troops to identify themselves to friendly aircraft must bear the most blame. Units must, at all times, when close to the front, be instantly ready to give recognition signals. The fighter pilot, travelling rapidly, has little time to make his decision and, like the ground trooper, does not like to pass by a target of opportunity without action -- American half-tracks, trucks, tanks, and helmets look very much like German ones from the air.

c. At algiers, on Dec. 10, at 1700, General Ryder, commanding E.A.F., with a party of his staff including Lt. Col. Robert Ward, G.S.C., who relates this incident, was conferring with the French Commander in the Fort De'L'Empereur located on the ridge which surrounds Algiers and its harbor. Negotiations were proceeding most satisfactorily when the Fortress was bombed by American airplanes--this was a considerable shock and surprise to all recipients; however, no casualties resulted and the Armistice was completed.

(1) In the confusion and delight at receiving the French commander's invitation to talk "surrender", the fact that the place of conference was to be an air target at 1700 was forgotten. Closer liaison

between air and ground would have prevented this incident.

10. Liaison between units in all directions is emphasized and practiced. Liaison with French troops on the Tunisian front is maintained by U.S. neighboring troops. The French language again plays an important part in this work.

11. a. Some 1st Armored Division tanks were lost near Madjez El Bab, through reacting to German 88mm tactics which were first used by the Germans against the British in the Libyan desert. (Maj. Long, S-3, 13 Armored Regt.)

b. The story of how and why C.C. "B", 1st Armored Div lost the battle and its materiel near Madjez El Bab between Dec. 6 - 10, 1942, is difficult to unravel. I particularly questioned various officers on the subject, including some who were engaged in the action. I shall only mention those facts which I obtained from officers engaged in the action, and this only for the lesson value.

(1) The reason given for the loss of battle and materiel was mud and weather, but the Germans were operating in the same mud and weather, offensively, which would be favored even less by these conditions.

(2) The 2d Bn, 6th Armored Inf, was operating adjacent to the medium tank battalion of the 13th Armored Regiment on Dec. 10. A withdrawal by the way of Medjez El Bab, to reach which a bridge had to be crossed, was ordered for the night Dec. 10. Two columns of German Armored and Infantry troops were known to be approaching C.C. "B" on two roads leading SW toward Medjez El Bab; therefore a withdrawal was attempted in daylight. The 2d Bn, 6th Armored Inf, followed in trace of the medium tank battalion west to cross the river by a second bridge several miles north of the main bridge mentioned above, intending after crossing to go south on a good road which led to Medjez El Bab and paralleled the river on the opposite side. Upon reaching the bridge, the tank bn, having already crossed it, the Bn C.O. heard that there were two German M IV tanks on the other side--there were actually two such tanks but both were non-operative. Thereupon, the Bn C.O. ordered a counter-march, with the intention of reaching Medjez by the South bridge. Due to the passage of other vehicles and his own march and counter-march, this Bn C.O. soon found his unit mired. Although the German columns were not yet near, he ordered abandon vehicles and withdrew his unit on foot. Lt. Col. Ringsock, who now commands this Bn and who was present at the battle, states that some vehicle crews refused to accept the order, remaining with their half-tracks and getting some of them back to Medjez. The Bn C.O. was relieved from command.

(a) Factors which, if present, might have averted the defeat.

1. Reconnaissance before decisive action.
2. A stouter hearted, better balanced Bn C.O.
3. A better knowledge of the terrain and his materiel by the Bn. C.O.

(3) In contrast to this Bn, the 1st Bn of the same regiment, acting under the same conditions and on the same terrain, when informed of the contemplated night withdrawal, acted as follows:

(a) During the morning of the 10th, withdrew all vehicles over roads to the south bridge parking them near the bridge so as to be able to cross on quick notice and without delay.

(b) Continued to hold his defensive position on a hill where he had been for several days, and when ordered, made a successful withdrawal with his vehicles.

(4) The medium tank battalion mentioned before as having crossed the west bridge with the same intention as the C.O. 2d Bn, 6th Inf, heard of the same two M IV German tanks being in the road which he contemplated using to reach Mdejez. Therefore, he left the road with his Bn striking across country on an un-reconnoitered trail, hoping to bypass the two German tanks and then to cut back to the main road again. His Bn became mired and he ordered "abandon vehicles", withdrawing his personnel on foot. His errors were the same as the C.O. 2d Bn, 6th Armored Inf, and he was removed from command.

(5) The other two tank battalions, I understand, met the south German column and, though hindered by mud, fought in place until driven back. Some tanks were withdrawn, others had been hit by German gunfire and others were set fire before being abandoned.

(a) There were no means of complete self-destruction such as thermite bombs, on hand. This lack has since been remedied and all tanks of the 1st Armored Division carry thermite bombs for the unforeseen eventuality.

(6) This narrative and the details were given me orally by Lt. Col. Ringsock, C.O. 2d Bn, 6th Armored Inf, and Major Long, S-3, 13th Armored Regiment, both of whom participated in the battle.

c. Tanks were landed at ORAN on the beach of ARZEW BAY from "Maricabaos", under protection of Infantry which had executed an earlier landing. The Maricabaos were able to approach the beach only up to a depth of seven feet of water, which necessitated the building of a pontoon bridge from that point to the shore line. The bridge, constructed of steel planking, laid on rubber rafts, required about three hours for completion. The operation of getting tanks to shore was then swiftly performed. This method of unloading tanks was considered quite successful by Hq II Corps.

(1) I am impressed that the success obtained was due to an inadequate shore defense and a calm sea. Against active opposition and in a rougher sea, the use of tank lighters must be relied on.

d. Combat Command "B" of the 1st Armored Division on about January 11, 1943, ordered the removal of all "white star" identification

markings on the sides and fronts of vehicles, leaving only the hood star for air use; this, because it was thought the white stars gave enemy T.D.'s and artillery too good an aiming point.

12. a. Units I have seen on the Tunisian front are conscientious in the digging of proper sized fox holes. A measure of their respect for airplane attack is evident when I saw a company mess line jump rapidly into fox holes on the approach of an unidentified airplane while it was about three miles distant.

(1) All holes I observed were of the slit trench type, about 2' wide, 4' long, and 4' to 5' deep. In locations where units had remained for some time, a series of such trenches connected and zig-zagged were in use. I inquired as to why this type of trench was dug rather than a circular hole of about 2' in diameter. The answer was sound; that is, the round hole of sufficient depth is too difficult to dig due to the limited working space after the first few inches of the hole are dug, whereas the rectangular trench affords more digging room and more working room after completion and affords as good protection as the round hole.

13. Small units strongly want an ever present proportion of A.P. and incendiary bullets for .30 Cal. weapons with them, which they did not have in one sector I visited, (2d Bn, 26th Inf at GAFSA). The troops would have more confidence and be able to make a better showing against armored vehicles and aircraft with this ammunition.

14. a. T.D.'s are occasionally acting as assault guns and as artillery. Such use is limited.

b. Tactics taught in our service schools are sound. I observed or heard of no failure which could be attributed to faulty conception of the operation or the tactics to be pursued in accomplishing the operation. Failures recorded have been due to personnel failures, inexperience or poor execution of plans.

(1) There is a tendency in small units to become involved frontally when meeting opposition, and too slow perception of the opportunity of executing flanking action around the obstacle. Instances of this were:

(a) 60th Inf at the Kasbah and Moorish village at Port Lyautey.

(b) 18th Inf at Saint Cloud, near Arzew (Oran).

(c) 39th Inf at Maison Blanche (Algiers).

15. I know of at least nine battalion commanders who have been relieved from command in the theater because of demonstrated unfitness. The following instances are noted:

a. Two Bn commanders of the 18th Inf, 1st Div, in line adjacent to each other west of the village of St Cloud, allowed their battalions to

become pinned down by frontal machine gun fire of an estimated two or three machine guns, did not make any effort to outflank the village (which action was later taken by superior Orders) and simply took no action.

b. The two Bn commanders of C.C. "B", 1st Armored Division, whose actions I have described earlier in this section.

SECTION IV

G-4 MATTERS

CONTENTS

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See:

SECTION V - Concerning "Requirements" matters.
SECTION VI - Concerning Shipping Matters, also contain G-4 Information.
INCL. 8 - Concerning Airborne Matters.

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1. Medical. Medical Officer, 9th Division, recommends that units bring with them a stock of vaccination and inoculation materials of common types. A large stock of halazone tablets, salt tablets and sulphanilimide powder in greater quantities, is also recommended; battlefield loss and use of these items is great.

a. Due to the method of carrying, sulphanilimide tablets become ground up. These are recommended to be included in the first aid kit.

2. Ordnance.

a. Fuse setters for the M-54 fuse are urgently needed by all FA in the theater. There are none on hand at present.

b. Ordnance officers recommend a larger supply of small, easily-broken parts such as fuses, bulbs, condensers, etc., and a larger allotment of cleaning and preserving materials for weapon and automotive maintenance accompany overseas troop movements.

c. Artillery ammunition for Center Task Force, loaded in England, was damaged at sea due to loading cloverleafs horizontally and in much depth. Rolling of ships, plus heavy weight, spoiled much of the ammunition. This was so serious that a 100% replacement request was radioed back to England.

d. Captured or abandoned arms and equipment have a difficult time in reaching the rear for study or for use in instructing new troops.

(1) French troops keep any weapons they can find as they are so ill-equipped of their own.

(2) U.S. troops keep such weapons for the additional fire power they offer and, of course, for the souvenir value.

(3) The Arabs are usually the first on the scene of any accident or of abandoned materiel and, if it can be moved, they take it; if it can't be moved, they strip it of moveable parts.

3. Quartermaster.

a. I have encountered the work of one QM Laundry unit in the theater. It was so poor that men preferred to wash their own laundry or to have natives do the washing. (Port Lyautey).

b. Paper of all types, typewriter, toilet, etc., was brought in insufficient quantities by Center Task Force.

c. "C" rations are disliked generally. A couple of days of eating "C" rations is bearable, but even after two months ashore, the "C" ration was still being served mixed with "B" rations. More variety could be added to this ration and it could be packaged for small unit serving, if that is intended as its purpose -- at any rate, that is the purpose it has served here. The British "Compo" ration, designed to serve a squad, is superior to the "C" ration.

d. Local purchase of articles of food is limited by:

(1) A limited supply of all foods.

(2) Military orders against the purchase by troops and individuals of certain items.

(a) Oranges, tangerines, eggs and some fowl, lamb and beef are purchases occasionally by troops to supplement the ration. Purchase is from unit funds.

(b) Occasionally, stock is run over by military vehicles and then is absorbed in the unit mess.

(c) Fowl and stock are frequently diseased, requiring meticulous inspection before consumption.

e. Three additional G-I cans and gasoline heating units are needed in each company for dish-washing purposes.

f. A solution of 80% leaded gas and 20% "white" gas is used for fueling gasoline stoves. This causes the need to clean the stove after each meal, and to it is attributed the frequent breaking of generators.

4. Signal.

a. There is difficulty in receiving sufficient radio batteries for those radios in the SCR 600 series (Arty radios). Also, communications units should carry organically larger supplies of small radio parts.

b. The RI Signal Company (128th) is functioning; however, since the T/O provides no linguists for voice intercepter work, the unit has had to borrow this type of trained personnel from the British.

5. Unit Supply & Reserves.

a. Western Task Force has an operating reserve of 15 units of fire. This is intended to be increased.

b. No information available on Airborne Supply methods. None has been attempted except by normal ground methods.

c. In the landing at Casablanca and other points on the west coast of Morocco, seven days of rations were carried in the combat team. On the ships were 15 days rations and 14 units of fire. One and one third (1-1/3) days rations (K) were carried on the individual and 280 rounds of rifle ammunition on the rifleman. Mortar crews carried 30 rounds per mortar; Machine Gun crews carried 9 boxes of ammunition for their machine gun. All of this was carried by hand due to lack of transportation.

d. Supplies are processed in the routine manner; however, small units must exert themselves to obtain supplies. In one case, I observed, a task force order announced the opening of a D.P., but no supplies or installations were present at the D.P. until two days after the announced opening. The small units did not suffer in this case as they had accumulated a reserve of rations.

(1) A company of the 39th Infantry subsisted for 5 days on one "K" ration and two "D" rations due to being forgotten in the supply

system during the capture and first two days after the capture at Algiers.

6. British Supply to U.S. Troops.

a. The N.A.A.F.I., a British organization for the morale and comfort of its troops, operates in the theater. It sells, on a ration basis, liquors and beer, amongst other items of a general Post Exchange nature, to officers and soldiers. Their privileges have been extended to some U.S. Officers' messes. The present liquor ration to British per month in bottles:

	Whiskey	Gin	Beer
Officers	2	2	?
Sergeants	1	1	?
Other Ranks	-	-	12

b. All U.S. troops east of Algiers were being rationed entirely by the British.

c. Due to the wide dispersion of units and the present situation wherein U.S. troops are reinforcing the lines held by British and French troops, the matter of maintenance of ordnance and motor transport, and the supply of special items of equipment, is difficult.

7. General.

a. Service units, as in maneuvers, in the U.S., need more training in camouflage, dispersion, field maintenance.

b. Water supply is adequate and purified in usual fashion for drinking.

c. Ships' losses have been slight in all convoys reaching Oran, Casablanca and Algiers. Even though slight, the loss of individual ships still results in minor disaster when the individual ship sunk contains all of the items of a single type carried in the convoy. A Captain Sullivan of the "Target Information" section of the Engineer Office, Hq 12th Air Force told me a whole shipment of photographic paper he had been expecting was sunk -- this placed the photographic production section in a serious position. A sudden major demand for aerial photograph reproduction could not have been met until the next shipment of paper would have been received. The same office was searching Algiers to purchase a lithographic press which it urgently needed.

d. The 509th Parachute Inf Bn registered a complaint that compass pouches, pistol holsters and other similar equipment [illegible] at the points of suspension -- this was demonstrated by producing some of the worn-out articles referred to. I am not convinced that the equipment is at fault in design or material -- rather, that "fair wear and tear" had simply done its work.

(1) Before being shipped, the unit should be re-equipped in all items of clothing and equipment which are even only half worn out, so that necessity of re-supply two or three months after arrival in the theater does not arise and thereby complicate further the already difficult problem of shipping tonnage. Equipment which has been used by a unit during a year of training in the U.S., is, except for special items, unfit for shipment overseas.

SECTION V

REQUIREMENTS MATTERS

CONTENTS

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See:

SECTION VI - For "Shipping Matters".

INCL. 8 - For Airborne Matters.

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1. a. Artillery howitzers were towed by 2½ton trucks after landing in North Africa.

b. Weapons carriers have been satisfactory.

c. I have seen no ground materiel equipped with recognition lights, such as demonstrated at Fort Benning in June 1942.

d. Thermite bombs are now carried in all vehicles by Armored

Force for destruction to prevent capture. Not only Armored Force but other units should have with each vehicle the means of destruction on hand. This practice is reported routine in the German Army in Tunisia.

e. Armored ¼-ton trucks have functioned without anymore breakdowns than un-armored ones and are in high favor with crews and officers.

f. Armored Force medical officer states the need of wheeled ambulances in the Armored Division. Long hauls in half-track vehicles kill serious patients. He felt that 50% of each type could fill the requirements present when combat commands operate separately and the normal chain of medical evacuation is impracticable.

g. I have neither observed nor heard of any use of any type bicycles by our own, Allied or enemy troops. They would be suitable only in those parts of this theater where roads are plentiful - which is an exception.

h. Transportation being limited and the army ground forces having to live administratively as well as tactically, for some time to come, there is a need for as many trailers as there are tactical vehicles on hand to tow them (except for prime movers).

i. A folding hand cart is needed in our Parachute Field Artillery Battalion. The Battalion as now constituted cannot move far with its weight of equipment unless hand-transportation is dropped, ¼-ton transportation is dropped or air-landed for it.

j. The practice of renting or requisitioning civilian transportation to supplement the limited motor transportation which was landed in North Africa is having widespread use.

(1) Allied Force Headquarters alone was operating nearly 200 civilian motor vehicles of various makes and types.

2. a. Infantry organizations armed with the rocket-launcher have received no personnel for its operation. A solution is the addition of a rocket-launcher squad per Rifle Company, consisting of 6 men (3 operators and 3 loaders and ammunition carriers).

b. Some Battalions feel that the Battalion Reconnaissance Section of 9 men is too small, because in operation the Battalion Commanding Officer found he had to give reconnaissance and intelligence missions to Rifle Companies or parts thereof, which depleted his combat strength and which the Rifle Company personnel was not specially trained for.

c. A reconnaissance unit is needed in our A/B Division. I have previously submitted recommendations as to the makeup to the Commanding General, 82d A/B Division. The armored ¼-ton truck is the only vehicle needed by this unit. Distant reconnaissance for the United States A/B Division must be provided by the Air Force and should be accomplished by armed aircraft. The "L" type aircraft would be of use to the A/B Division if definite air

superiority of our own Air Force is a certainty in the situation.

d. Six (6) AA A/B batteries [illegible] They have and are being used against enemy aircraft. [illegible] state they wish there were more of them. There has been some complaint about their inability to care for themselves administratively. This should be remedied in T/O by inclusion of the necessary ground administrative personnel and equipment.

e. In theory, the practice of the theater or any commander furnishing A/B Units with administrative help is logical, but in practice, there is never enough administrative help, and Airborne Units arrive in the theater, without the theater being prepared in its planning and requirements, for the provision of administrative help, equipment and transportation to such units.

3. a. Two occasions have come to my notice where Infantry cannon and Tank Destroyer S.P. have been used as accompanying artillery.

b. The 60 and 81mm mortars each has done its particular mission well. Inexperienced officers sometimes condemn the 60mm because it does not do as well as the 81mm and has not so great a range. Such a comparison, however, does not consider the weight of weapons and ammunition nor the difficulty of hand movement of this weight. One Battalion of the 60th Infantry at Port Lyautey had to move its 81mm mortars and ammunition twelve miles across country by hand while fighting - this unit will not recommend that procedure as normal.

c. There is considerable opinion and some of it carrying great weight and rank (Lt. General Clark, Brig. General Rooks, Brig. General Porter) to the effect that the 37mm is not a worthwhile A.T. weapon. In the Tank Destroyer Units where transportation and weight are of little moment, this disfavor of the 37mm is probably warranted. Since they can easily carry it, all of their anti-tank guns should be of a caliber to knock out the heaviest opposing tank at the greatest ranges possible. But, in the A.T. units of the Infantry, the question is different. The lightest gun which can knock out or damage medium foreign tanks is the requirement. I know of instances of 37mm gunfire knocking out light tanks in North Africa. The common report is that many direct hits bounce off the armor of German tanks. This is probably true - the turret armor of most tanks will resist 37mm. I have also heard that one reason for this apparent ineffectiveness of the 37mm against tanks is that "training" A.P. Ammunition was used ineffectively (1st Armored Division). Before the 37mm is abandoned by the foot Infantry, reports based on the use of A.P. ammunition against German tanks should be considered. A.T. guns attempt A.T. fire usually from 400 - 800 yards, as currently practiced in the United States. Invisible mines and booby traps have been used to a very limited extent by United States troops on the Tunisian front, with success.

d. Although the carbine is not in the hands of all troops whose T/O includes carbines, those who have them are well satisfied with them. As in the case of the 60-mm vs the 81-mm mortars, I have heard inexperienced officers disapprove of the carbine because it was not as effective as the M1.

None has questioned its superiority over the pistol, caliber .45.

e. The sub-machine Gun caliber .45 has not made a favorable impression with foot infantry.

f. The rocket-launcher frequently flares back in the operator's face on discharge. This could be corrected by a face mask or by use of a 100% reliable propellant.

g. Anti-tank rifle grenades have been used successfully against French Scout Cars. No test against German materiel as yet. In practice firing, three separate occasions where the rifle grenade detonated while still on the launcher were recounted to me. In each case, the firer was wounded in the legs. No cause was determined as to why the grenade did not project from the launcher.

(1) The grenade with the projecting nose as opposed to the round nose is reported by several units as having a reliability of detonation of about 1 in 3 times. The round-nosed grenade functions without fault for detonation. (Round nose M1 A1, projecting nose, M1)

4. Clothing is not too satisfactory. The variety of United States uniforms including flying, parachute, armored force and foot infantry is confusing to our allies and gives a hodge-podge air to the whole.

a. The variety of our headgear is amusing to foreigners.

b. The field jacket is definitely not warm enough - its liner should be at least double its present weight, if it is to serve for anything more than the appearance of warding off the cold.

c. The wool uniform is satisfactory for wear and warmth, but could be improved for use in combat and in bivouac. The adaptation of the principle of numerous pockets, as used in our parachute jump suit, and in the design of a civilian hunting coat, to the combat uniform would help the foot soldier in carrying the weight he must carry. This uniform could be all purpose for all branches, but not for all seasons. The idea of incorporating attaching devices into the combat uniforms for the carrying of some items, rather than the putting of these items into bags, etc., which are all suspended on the back or shoulders, should be investigated.

d. Troops equipped with the bag, canvas, field, have not found a suitable method of suspension of the bag. It rides too low on the back and causes the belt, field, to constrict the abdomen when the abdomen should be free for full lung use, no matter what adjustments are made on the straps and belt.

e. Leather soled and composition soled shoes are favored over hob-nail types. The composition sole was favored over the leather sole in units questioned. It is claimed to wear longer than leather and causes no discomfort in marching over any type of terrain.

5. a. The British and French Army entrenching tools are both better liked by our troops than our own. The individual trenching tool in those Armies combines the shovel, pick and pick-mattock features in one tool, thus giving each individual all the means he needs for digging his fox hole, rather than distributing those means so as to include all the needed tools in the squad group.

b. Armored Force bombat, the majority of wounds incurred are burns. Armored Force Medical Officers feel that all Armored Force personnel should carry burn salve as a part of the first aid kit.

c. Troops living in shelter halves are dissatisfied, with the open-end features. In wet weather, it means that the soldier either allows his belongings in his tent to get wet, or he covers the open end with his raincoat and he gets wet. Double tenting is not the answer, as terrain and trees won't always allow that. If both ends of each shelter half were closed as the back is now, complete weather protection could be had.

6. a. Units in bivouac or on the march need a hand cobbler's set of tools and a small stock of heels and soles. Shoe repair service of the Q.M. is too slow (3 weeks).

b. Ordnance and Signal Officers state a need for a larger stock of small repair parts in lower echelons.

c. Camouflage nets for vehicles and helmets are used meticulously on the Tunisian front. I observed no special camouflage equipment beyond the use of nets. Dispersion is relied on due to the difficulty of camouflage in the open country.

d. Methods and equipment for the supply of drinking water are satisfactory. One quart per day per man has been sufficient for drinking during January. Canteens are satisfactory. Extra canteens are not necessary except in special operations.

e. The enemy jams many frequencies above 6,000 kc so as to interfere with large stations. Jamming of our small tactical frequencies has not been noted. An "accordian" type jamming is the most frequently used.

f. There is a strong need for small unit cooking facilities in all combat type troops. In the Armored Force, cooking by vehicle or tank is recommended. In Infantry units, cooking by squad is desirable. Dispersion is so generally the rule for units on the front or in combat that company cooking is awkward.

g. Additional means are required for washing mess kits and kitchen gear. The only satisfactory means of having three waters for company sized groups of men is to have three extra heating units and three extra nesting cans.

h. Late types of C.P. tents have proved good. Most senior head-

quarters manage to install in hotels and schools. However, I did visit units who had used the C.P. tents for several months and who liked them. Some medical officers preferred the C.P. tent to the pyramidal tent for use as a treatment tent.

i. Wire W-130 served satisfactorily in combat, but after three days of use and misuse because unreliable. In line with our experience in the United States, the wire core breaks easily without the insulation showing any sign, thus making the finding of the break slow and difficult. Since units are mostly now living in field conditions, but conducting garrison routine, the need of supplementary heavy wire for routine use in all echelons is felt. Similar use would be found in stabilized situations after the W-130 had served its purpose in establishing communications during movement and active combat.

j. Radio maintenance in the field is hampered by the lack of equipment and technical personnel organic in the smaller units and the difficulty of finding signal units to make repairs and adjustments when they are needed. Battery life has been in line with maneuver experience. Battery supply has not been difficult. No units I have seen are attempting any wig-wag or code practice with flag sets or lamp sets. A division signal officer admitted that this could be worth-while in small units, since small unit radios were more subject to failures than those in larger units.

(1) Infantry set engineer entrenching tools is wanted to stay in infantry T/BA. The difficulty of obtaining anything on the battlefield when it is most needed tends to cause commenders to favor the organic inclusion of every item their transportation is capable of hauling.

7. a. "K" rations are suitable for a limited time. I would estimate that more than three days of "K" rations would be too long for cold, concentrated food. It is sustaining and satisfying.

b. Life savers and hard candy in the field ration do not satisfy the desire for chocolate sweets. A hard chocolate candy bar daily is needed in the field ration.

8. a. The enemy has not used any airborne tank destroyer units, nor are any known to be in North Africa.

b. While small enemy tanks are reported to have been airborne in Tunisia, no encounter with them is known.

c. The enemy has made no use of C.W.S. in this theater except for smoke screen units in hiding harbors during our air attacks. C.W.S. equipment has not been used; in some units it has been withdrawn and stored for preservation and to lighten the equipment of units not immediately facing combat.

SECTION VI

SHIPPING MATTERS

CONTENTS

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1. SUPPLIES. All units visited had suggestions and comments to offer as a result of errors or omissions determined from their own movement overseas. The comments include some administrative and tactical aspects of loading for overseas shipment. All references are to shipments originating from the United States, and not from the United Kingdom.

a. Listed here are items which organizations either failed to bring at all, brought in insufficient quantity, or would like to have, regardless of allowances; (includes T/BA and organizational property)

Additional Coleman lanterns.
Additional toilet paper.
Grease pencils.
Hectograph materials.
All types of small training aids.
Rags of any kind.
Scrap canvas.
Ten rubbers (prophylactics) per man.
Additional stationery.
Camera per company (as desired).
Films for camera (years supply).
Portable radios.
Additional cleaning and preserving materials.
Paint, white and colors used in unit symbols.
Light repair parts for all types of materiel.
Three extra heating units per kitchen.
Three extra GI cans per kitchen.
One extra shelter half per each two men.
30# assorted nails per company.
Four flat irons per company.

Four wash boards per company.
500 board feet of dressed 1" lumber per Co. and per Hq.
Additional Halazone tablets.
Salt tablets.
Combination vitamin tablets.
Additional medical kits for aid men.
Additional GI soap.
Sufficient W-110 (heavy) wire for establishing a unit administrative telephone system.
Several French-English dictionaries and phrase books per Co.

b. The principle that the unit will have to get along without replacement of any items which become broken or lost in shipment should be borne in mind when preparing for shipment. Replacement of many Class II and Class IV supplies in North Africa is at present out of the question and probably will be for some time to come.

c. Post Exchanges are not yet operating in North Africa. One unit anticipating this circumstance converted some of its funds into merchandise prior to sailing, which has since proven a help to the unit and its morale. A small item, but important to many, is the fact that many officers receive promotion in the theater and are unable to obtain higher rank insignia. This should be a matter to be cared for by the Division or unit exchange.

2. LOADING AT PORT OF EMBARKATION. Actions recommended to be taken in order to avoid unsatisfactory conditions which have occurred and which are here listed:

a. Vehicle tools were missing when vehicles were unloaded at Casablanca.

Recommendation. Vehicle tools be securely boxed and the box bolted to the floor of the vehicle.

b. Vehicles were loaded in the United States with full gas tanks and full spare cans. Vehicles arrived in Casablanca practically empty of gas and most spare cans missing. A total loss of 10,000 gallons of gasoline in rear echelon of 9th Division.

Recommendation. A close guard by personnel of the unit up to the moment vehicles are placed on shipboard.

c. Some vehicles became detached from the unit vehicle group while at the port of embarkation and have not yet been delivered.

Recommendation. That the unit be allowed by the port of embarkation to actively supervise and assist in the handling of its vehicles until they are all safely on shipboard.

d. Vehicles were loaded on trains at the division camp in the United States with all vehicles marked as to priority and train-loaded in that

order. The port of embarkation disregarded priority markings apparently, as the vehicles arrived at Casablanca without any regard to priority or system.

Recommendations. Same as c above, with the addition that an adequate and high-ranking detail of division supply officers accompany the vehicle group to the port of embarkation to make certain that the approved loading plan is executed. This recommendation is not made in a spirit of malice towards the port authorities--it is realized by the unit from whom I obtained this comment that the port has a large and complicated task, but that it felt that it could be of considerable assistance to the port authorities,and to itself too, if it were allowed to have its representatives present during the whole of the loading operation with the object of assisting in rather than that of directing the loading of its vehicles. Transport Quartermasters were found to be ineffectual for the task because of their juniority and general inexperience and because the amounts, locations and priorities of shipment of the total of organizational equipment were too large a requirement for one officer to keep in perfect order.

e. Loading plans did not apportion various type vehicles in proportion throughout all vehicles carrying ships of the convoy. Unless this is corrected, the loss by sinking of one ship could deprive a unit of all of its vehicles of a particular or special type. This is,of course, an old and well-known principle.

f. Vehicles were loaded without regard to unit and were not accompanied by driver personnel.

Recommendation. Driver personnel should remain on the same vessel as the vehicle throughout the voyage.

3. PROPERTY IDENTIFICATION, PACKING AND LOSSES.

a. The use of unit tactical symbols on vehicles as well as on all other types of equipment was most helpful in debarking in one division. Such symbols are recommended to be applied on at least four sides of the item and of about 6" x 8" size.

b. Some property was not boxed or crated, but was tied or strapped in some fashion which was not strong enough for the handling given by ships' cranes. Consequently, property was broken or became separated and lost because the individual parts were not marked with any identification.

(1) Similarly, most of the packing and crating material used was 1" dressed lumber which in many cases was not strong enough and again property was broken or lost because of lack of strength and lack of marking on items contained in boxes which themselves were properly marked.

Recommendations.

1. 1" rough lumber (averages about $1\frac{1}{4}$") or heavier material be used in all boxing and crating.

2. All boxes and crates be diagonally braced and corner checked.

3. All bulky items in boxes and crates should bear unit symbol even though the box itself is completely addressed.

4. Items such as typewriters and adding machines should be boxed with other property in larger boxes. It was found that these two items in particular, due to their characteristic size and shape were easily recognizable and frequently became abstracted from the shipment, never reaching their proper destination.

c. Assemblies such as stoves, 105mm howitzers and other types were, in some cases, shipped without provisions being made for keeping together all parts without which the assembly cannot function. Pumps became separated from stoves, quadrants became separated from howitzers during shipment. (This was true only in the administrative shipment and did not apply in the "D" day shipment). The result is obvious.

Recommendation. Accessories and parts needed in the functioning of any assembly should be boxed and securely attached to the proper assembly for shipment.

4. IMMEDIATE REQUIREMENTS AT PORT OF DEBARKATION. Personnel, including officers, boarded ship with the expectation of having almost immediate access on landing, to their property carried in the ship's hold.

a. On landing, much of the hold baggage took as long as seven days to reach the owner.

b. Officers had no sleeping equipment for varying parts of these seven days, depending on how lucky the individual was in receiving his baggage.

Recommendation. Every person, officer or enlisted man, should carry with him aboard ship to his assigned sleeping place all that property which he will need for his own use during the first week after landing - this includes bedding.

c. Similar to paragraph a above, each organization should carry with it as personal baggage those items needed for unit existence such as shovels and toilet paper for latrines; water heaters and GI cans for washing mess kits. There are, as yet, no staging areas in North Africa such as those seen in the United States.

d. Rations for the first two days on shore after landing must be drawn from the ship--this requires several days advance arrangement while at sea, otherwise, as one unit did, the unit will go without rations until some can be found.

8 Inclosures (On file at Hq, AGF).
1 - Battle Casualties.
2 - Loss Replacements - Oran & Algiers.
3 - Tng Memo #1 - Hq, Ninth Inf Div.
4 - Ltr, Hq Center Task Force to CG, AF.
5 - F.O. No. 14 - 2d Bn, 509th Para Inf.
6 - Req #1 - 2d Bn, 509th Para Inf.
7 - Map of Africa.
8 - Airborne Matters.

G. E. LYNCH
Lt. Col., G.S.C.
Observer, North Africa,
for Headquarters, AGF.

~~CONFIDENTIAL~~ UNCLASSIFIED

319.1-A-1/16

HEADQUARTERS
ARMY GROUND FORCES
Army War College
Washington, D.C.

319.1/11 (Foreign Observers) (C) - GNGBI (3-5-43) March 5, 1943.

SUBJECT: Observer Report.

TO: Commanding Generals,
Second and Third Armies,
III, IV, VII, VIII, IX,
X, XI, XII, XIII and XV Corps,
II, III, and IV Armored Corps,
Airborne Command,
Amphibious Training Center,
Antiaircraft Command,
Desert Training Center,
Mountain Training Center,
Replacement and School Command,
Tank Destroyer Center,
Chief of the Armored Force.

16

1. Inclosed report of Col. Robert S. Miller, Infantry, Observer from Headquarters Army Ground Forces to the United Kingdom and North Africa, for the period October 15, 1942, to February 2, 1943, is furnished herewith.

2. Distribution to divisions has been discontinued by the Commanding General, Army Ground Forces. Reproduction and distribution of observers' reports to subordinate units is not authorized.

3. The data and recommendations contained in this report represent the views of the individual observer and are furnished for information only.

4. Changes in training doctrine as enunciated in War Department publications, which are necessary because of the information contained in observers' reports, will be published by the War Department. Changes in training directives of this headquarters, which are necessary because of information in observers' reports, will be promulgated by this headquarters.

By command of LT. GEN. McNAIR:

J. R. DRYDEN,
Lt. Col., A.G.D.,
Ass't Ground Adjutant General.

CLASSIFICATION changed to Unclassified
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By Catherine Zuber

1 Incl - Report of Military Observer.
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SUBJECT: Report for Observer in European Theater of Operations, Colonel Robert S. Miller, October 15, 1942, to February 2, 1943.

TO: The Commanding General, Army Ground Forces, Washington, D. C.

1. This report is submitted in compliance with letter, AGF, October 5, 1942, Subject: "Directive for Military Observer", file No. 201 (Miller, Robert S., O-7959). Section I covers the observations and activities in the United Kingdom during the period October 15, 1942, to December 11, 1942. This period was largely devoted to observation of British schools and methods of training with particular attention to infantry matters. Section II covers observations and activities in the North African Theater during the period December 12, 1942, to February 2, 1943. This period was devoted to observation of troops in the field and in contact with the enemy, and to interviews with most of the general officers, regimental commanders and staff officers and hundreds of junior officers and soldiers who had recently been engaged in landing operations and the advance on Tunis.

2. To facilitate study of this report, it is arranged in the following order:

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OBSERVATIONS AND ACTIVITIES IN THE UNITED KINGDOM

SECTION II

OBSERVATIONS AND ACTIVITIES IN NORTH AFRICA

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SECTION III

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

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SECTION I

OBSERVATIONS AND ACTIVITIES IN THE UNITED KINGDOM

October 15, 1942, to December 11, 1942.

1. Rehearsal of Landing Operations. This rehearsal was very secret and no report was made at the time. A coast line was selected that approximated the North African Coast where the landings were to take place. Troops, combat loaded, were rehearsed in leaving the ship under cover of darkness, advancing to shore in small boats, a night attack and advance inland.

2. Waterproofing Vehicles and Submerged Driving. Report was submitted October 22, 1942, which gave a list of five MA reports on this subject which had been previously submitted to the War Department. Both British and American Troops had been experimenting with methods of waterproofing vehicles for shipment and for driving while submerged. Tanks were driven through eight feet of water and 1/4-ton trucks were driven with the engine and body completely submerged. This observer saw demonstrations by a British unit.

RECOMMENDATION: All units with motor vehicles should be given this training. It should be included in the Automotive Course at the Infantry School. It is especially applicable to units being trained for landing operations.

3. Liaison Visit to 29th Inf. Div., U.S. Report was submitted October 29, 1942 (See Appendix 1). This report covers some of the problems of a division commander and staff during the movement from the United States to the United Kingdom; and also problems of billets, training areas, and training during the first few weeks in the United Kingdom.

4. Physical Training School (British). Report was submitted November 4, 1942(Appendix 2). This report covered:

a. Organization of PT in the British Army.
b. Purposeful PT.
c. Swimming.
d. Physical Efficiency Tests.
e. Equipment for PT.

RECOMMENDATIONS: That more emphasis be given to a planned, systematic course of purposeful physical training; that all soldiers, particularly those expected to engage in landing operations, be given instructions in swimming with field equipment; that our PT program set up standards which must be met by individuals and units - these standards to include marching.

5. Small Arms Firing School (British). Report was submitted November 4, 1942, (Appendix 2). This report covered:

a. Organization and Purpose.
b. Grenade Training, including a description of the grenades used.
c. Marksmanship - no bull's eye firing.
d. Bayonet Training.
e. Tank and Aircraft Identification.
f. Small Arms Anti-Aircraft Firing Training.
g. Rifle Platoon Organization.
h. The 2" Mortar.

RECOMMENDATIONS: That we make more use of smoke in our small unit training; that consideration be given to having smoke immediately available in the squad and platoon as was here demonstrated by the smoke hand grenade and the very effective smoke bomb for the 2" Mortar.

6. Battle School (British). Report was submitted November 8, 1942, (Appendix 3). This report covered:

a. Organization and Purpose.
b. Infantry and Tank Cooperation.
c. Flame Throwers.
d. Battalion in Defense.
e. Platoon in Frontal Attack.
   (1) Battle Inoculation.
   (2) Use of Smoke.
   (3) Defense of Objective.
   (4) General Comment.
f. The Battle Drill.
   (1) Field Craft.
   (2) Camouflage.
   (3) Speed and Endurance.
   (4) Observation.
   (5) Battle Inoculation.
   (6) Final Test.

g. Combat Intelligence.
h. Training Aids.

RECOMMENDATIONS: That the possibilities of the vehicular flame thrower be investigated; that we adopt at once more battle field realism or battle inoculation in our training; that we adopt, at once, a modified battle drill based on the British battle drill retaining only the general idea but changed to fit American methods of training; that we adopt the more practical method of teaching combat intelligence; that we give more emphasis in our training to concealment and camouflage.

7. Engineer Demonstration - Crossing Obstacles (British). No report was submitted, as there was nothing new or unusual to report. The demonstration consisted of two battalions in attack, supported by tanks, crossing barbed wire, trenches, tank ditches, and mine fields employing the usual conventional methods.

8. Combined Training - Army-Navy Small Task Force (British). Report submitted November 22, 1942, (Appendix 4). This report covered:

a. Organization and Purpose.
b. Opposed Landing Exercise.
   (1) The problem and its tactical solution.
   (2) Leadership of junior officers.
   (3) Battle Inoculation.
   (4) Comments.
c. Night Landing Operations.
d. Mountain Operation - A Raid from the Sea.

This school trains small task forces, usually a battalion with certain Navy personnel, for a special raiding operation. The training was of a superior quality, approximating commando training for a special task, the interesting feature being the training of the Army and Navy personnel together as a team.

9. Commando Training (British). Report was submitted November 22, 1942, (Appendix 4). This report covered:

a. Organization and Purpose.
b. Physical Training.
c. Marching.
d. Weapons.
e. Landing Raid - Battle Inoculation.
f. Reconnaissance Course.
g. Comments.

RECOMMENDATION: That each infantry regiment train one platoon in commando methods. This is a specialized training that the regimental commander will find quite useful at times. The platoon, so trained, might well be the R & I platoon of headquarters company, or a special duty group of volunteers to be detailed from their unit for this training

to be available for use when needed.

10. Street Fighting. It was quite noticeable in North Africa, after the landings, that when small infantry units were fired on in the streets and from buildings they were at a complete loss to know what to do. A report was submitted by another observer.

RECOMMENDATION: That all infantry units be given some training in street fighting similar to that given at the Street Fighting School - British.

SECTION II

OBSERVATIONS AND ACTIVITIES IN NORTH AFRICA

December 12, 1942, to February 2, 1943.

1. Personnel Matters.

a. Mail Service. The mail service was extremely bad. Although letters were occasionally received in two weeks, the average seemed to be six weeks to two months, and many were three months on the way. Many soldiers who had had no mail for two months or more would receive a letter from home stating they had written every week. Letters seem like such an unimportant thing in war, yet they have such a tremendous influence on morale that every effort should be made to improve the mail service. It is understood that corrective steps have already been taken by higher authority.

b. Post Exchange. Limited Post Exchange service was available to most of the units in the rear areas but not on the front. A colonel in charge of special services made a trip with a truck load of supplies visiting every unit on the front. This was such a morale booster that it should be given serious consideration by all unit commanders. There is a tendency to detail young, inexperienced officers in charge of this service. It is so easy for them to say, "I can't get supplies", or "I can't get transportation". It is an important factor in morale, and commanding officers must keep after it. Supplies and transportation are limited but care must be taken that this is not used as an excuse as was done many times.

c. Changing Personnel when Alerted. Units that were alerted for overseas were combed out and personnel was transferred that was to be left behind for various reasons. These vacancies were filled by last-minute transfers into the unit, in some cases at the Port of Embarkation. A unit should not be required to go into combat with a large group of personnel that has been with it too short a time to get acquainted or to learn about their state of training and other qualifications. This is true of men of all grades, but particularly platoon commanders. Training in teamwork is just as important for small units as for large. Leadership is based on confidence and respect which is attained only over a reasonable period of time. Enlisted replacements must have additional training with the small unit with which they are to fight in order to perfect teamwork.

RECOMMENDATIONS: That a unit intended for overseas service and possible immediate combat be combed out, filler replacements assigned six weeks before departure from the United States and the personnel frozen in place; that no further changes be made except for hospital cases or real emergency.

2. Combat Intelligence.

Troops on this front have received the normal training in combat intelligence but this is not enough. They must go much farther than the usual training in "collection, evaluation, recording, and dissemination of combat intelligence". Intelligence officers must make a thorough study of enemy uniforms, weapons, equipment and tactical methods, then train all officers and men of the unit in these subjects. They should be thoroughly familiar with the methods of enemy parachutists, and with all kinds and types of enemy booby traps. Men should be trained in the operation of enemy vehicles and weapons and certain men in their recovery and repair. Special training should be given all men who have a knowledge of the enemy language. Units being sent to this theater should stress training in this subject.

3. Training Matters.

a. Leadership. In the landing operations, the young officers showed a decided lack of training in initiative and aggressiveness. This was not due to lack of courage, energy or willingness, but was a deficiency in training. They are exceptionally well trained in technique and are fine instructors on the training ground or marksmanship ranges. When they run up against something in combat they invariably stop, report back the situation, and await orders. This is fatal to success. They must be trained to make their own decisions and aggressively plough through to their objective. Initiative and aggressive leadership must be emphasized and stressed in all officer training rather than the over-doing of seeking nicety of tactical solutions. This can be done in two ways: (1) Training in a modified or American version of the British Battle Drill, and (2) Placed in command of a unit and given missions which will require considerable initiative, aggressiveness and effort to accomplish. All this

must be done under the guidance and supervision of a senior officer who is himself a leader.

b. Lessons Learned in Combat. The lessons learned in the landing operations on the coast of North Africa and the advance on Tunis have been collected and published. Copies have been sent to the War Department and it is presumed they are available to commanders charged with the training of troops for this theater. These lessons have been learned the hard way and at the cost of lives. They should be carefully studied and applied in the training of troops. They are contained in the following documents:

(1) TM No. 4, Allied Force Headquarters, 28 December 1942. Notes on Recent Fighting in Tunisia. (See Appendix 5.)

(2) TM No. 2, AF Headquarters, 7 January 1943. Notes on Recent Fighting in Tunisia (No. 2). (See Appendix 6.)

(3) AF Headquarters, 16 January 1943. Compilation of Reports on Lessons of Operations (See Appendix 7.)

(4) TM No. 6, AF Headquarters, 30 January 1943. Training Directive (See Appendix 8).

The latter document (TM No. 6) had not yet been approved and published but was only in draft form. It is presumed it has been published, possibly with some changes, by this time. In its draft form it contained the results of many valuable lessons learned in combat in the form of plans for further training.

c. Identification of Aircraft. A number of cases have been reported, and one observed, of friendly aircraft being fired on and brought down by our own troops. The best means of identifying friendly aircraft is by a system of prearranged signals. The attempt to teach soldiers to identify aircraft by the silhouette has proved to be unsatisfactory. The best means for infantry to identify enemy aircraft is by the sound of the motor. The German airplane motor has a distinct sound which troops soon learn to recognize. Further thought and effort must be given this subject in the training of infantry and every means of identification must be employed in training.

d. Small Arms Fire against Aircraft. Many small arms advocates say that planes have been brought down but that heavier AA weapons in the vicinity get the credit. There was one case where it was known that an airplane was shot down by .30 caliber fire. There were no heavier weapons in the vicinity. The policy of the higher command is that every available suitable weapon will fire at enemy aircraft. The general practice is that a unit concentrated in a small area, such as a battalion in bivouac, will fire all weapons except mortars and grenades at low-flying aircraft. A small unit, such as a platoon, or a unit in a concealed position that has

probably not been definitely located by the enemy, will not fire. There are two reasons for this. Where the position is known to the enemy and a heavy volume of fire can be put up, such as a battalion, it is best to fire all available weapons. Enemy pilots will not fly through this sheaf of fire at low altitudes. Thus the battalion is protected even though they do not bring down an enemy plane. A platoon or company alone cannot put up a sufficient volume of fire to get this effect. In this case, it is better to remain silent and concealed. Second, there is a morale factor involved. If men can fight back, there is no question but what it does relieve the nervous tension when being strafed by enemy aircraft. All infantry units should be trained in AA fire. The decision when to fire or not to fire is simple -- always fire when in doubt. Our own pilots must learn not to fly low over our own troops unless they do so by pre-arranged signals.

e. The .50 Cal. AA Machine Gun, and Protection of Motor Columns. The infantry regiment needs more organic antiaircraft protection. The .50 caliber machine gun is heavy enough for this purpose. It has been found that the .50 caliber mounted on every sixth truck provides ample protection for a motor column against low-flying planes. The AA units must take care of the high altitude. The circular track mount on top of the cab has proven much better than the pedestal mount. As explained in the paragraph above, they may not shoot down a single enemy plane, but when a sheaf of .50 caliber tracers is seen above a truck column, enemy pilots will not fly through it at low altitudes. Thus the motor column is protected from strafing. Some of these weapons with ground mounts should be in the infantry regiment for AA protection of other than motor columns. The teaching that aircraft will not attack single trucks because they do not offer a remunerative target is false. It is common practice, a daily occurrence in this area, for German ME 109's to attack single trucks and passenger cars. A 1/4-ton truck (jeep), moving on the road near the front in daytime, is almost sure to be machine gunned from the air. Many such instances were observed, and one case was reported, of an officer on a motorcycle being strafed from the air on a road where no other vehicles were in sight. Infantry troops must be trained to expect this type air action and how to protect themselves from it.

f. Air-Ground Cooperation. Here is a problem that is not yet satisfactorily solved. The Germans seem to do this better than we do. The ground commander, (usually a battalion commander), must be able to get air support on a definite target indicated by him and get it within one hour. We are not yet able to do this. It is believed that a recent training directive from Allied Force Headquarters will improve this situation, and the same policy might well be given consideration in the training of troops in the United States. It is to the effect that whenever a battalion or larger unit is engaged in any kind of tactical training or a practice march, arrangements will always be made for air cooperation in connection therewith. One or more times during the exercise or march the ground commander will call for air support on certain definite targets. Aircraft will be on alert either in the air, or on the field, and give the support requested. If sufficient aircraft is not available, this can be

done by one airplane. Reports will be rendered by both ground and air as to time of call, clarity and definiteness of target, time call was received, time support was rendered, theoretical effect, and any other pertinent information. Ground officers are just as much in need of this training as air officers. The ground and air must be trained as a team just the same as infantry - artillery. Action on this front has shown the decided need for this training. It is imperative that it be given urgent and immediate attention in training troops in the United States for this theater.

g. Individual and Small Unit Training. Troops coming to this theater must have more and more of this training even though it has to be done at the expense of higher unit training and maneuvers. There were many instances of casualties because troops violated the simple fundamental principles of cover and concealment. In many instances, troops in a good firing position were prone to want to "shoot it out" rather than take advantage of the principle of fire and movement. Small units, in many other cases, had a tendency to barge ahead in frontal attack even where the situation and terrain were ideal for maneuver. There are some who say the attack of a small unit is essentially frontal but this is not true. The squad and platoon leader must always be on the alert from an opportunity to maneuver and take advantage of such opportunity whenever possible. The individual must be given more training in the use of cover and concealment and to care for himself, his weapon, and his equipment in the field. All of this involves not only the question of tactical and technical knowledge but also of battle discipline, all of which can be vastly improved by proper training and leadership and must be done during the training period in the United States. The British say "the discipline of the barracks square must be carried to the battlefield". They are right, but saying so will not do it. It is a matter of training. Battle discipline and leadership must be emphasized in all tactical training, marches, exercises and maneuvers. In my opinion, this is the most important item in this report. It was quite apparent on this front that the local successes and number of casualties is largely in proportion to the effectiveness of this training. Our training in scouting and patrolling must include long distance patrols with motor transportation. Troops in the United States being trained for this theater should stress and emphasize individual and small unit training, leadership of small units, and battle discipline over and above everything else.

h. Marksmanship. It should go without saying that no man should be sent into combat zones who is not qualified in the use of his weapon,, yet a large percentage of men on this front cannot be so classified. Such men are only a target for the enemy and of little or no use to their unit. Much marksmanship training is being conducted in the rear areas here. Everything possible should be done in the United States to lessen this training load on units in the combat zone.

i. Tactical Doctrine. Our tactical doctrines are sound. The fault in this theater was in the execution, or rather failure, to apply fundamental tactical principles. There were many cases of commanders

failing to observe the principle of the objective as laid down in par. 452, FM 100-5. This reads, "The objective having been selected, all components are directed in coordinated effort toward its attainment. Actions which do not contribute to this purpose are avoided." In one case a combat team was moving in two columns to seize an important objective. Time was of paramount importance. The left column ran into a defended road block. The right column, (the main effort), had a good covered approach to the lightly-defended objective. The entire combat team deployed in a coordinated attack on the road block involving several hours, whereas one company could have contained it while the objective was being seized. In another case two columns were moving to seize an airfield. Time was important because friendly planes were already in the air expecting to land on this field. There was a small French fort lightly garrisoned well off to the right of the right battalion. The battalion commander had been directed to by-pass the fort, leaving one platoon to his right rear for protection. His right unit received some scattering fire and he attacked the fort with everything he had, becoming involved in a fight that kept his battalion out of the main effort entirely. The reserve battalion had to be thrown in to take his place. There are numerous such instances. In our training, we must rigidly guard against the tendency to "march to the sound of guns", or to be diverted from the objective by minor actions.

While our teaching as to frontages and depth is sound, commanders must be trained how to deviate from the conventional method when the situation demands. The vast distances on this front, and comparative small number of troops, sometimes make it necessary to hold unheard of frontages. Commanders, (particularly battalion commanders), must know how to do this to the best advantage. Training in control is of paramount importance. There were many cases of complete loss of control. Commanders must be trained to maintain control at all times. Radios and telephones will go out, but this is not an excuse for loss of control. In our tactical training we must frequently deviate from the normal in order to give subordinate commanders this type of training.

j. Fox Holes. There were many casualties, particularly in British units, because of improper fox holes. The shallow squatting holes, or the elongated trench that a man can sit or lie down in, become death traps. Holes should be about $2\frac{1}{2}$ ft x 1 ft wider than a man's shoulders and never less than 4 ft deep. The depth depends on the height of the man, but of such depth that he can crouch with his head 2 ft below the surface. Our troops must be required to dig on all occasions. The old idea that men will dig without being made to do it is not true at first. Too many men are killed before they find this out. Troops in the United States should be trained to dig fox holes by digging them. It is not sufficient just to tell them about it, they must be made to do it and do it properly. An officer must inspect each hole. This again involves not only training in technique but also training in battle discipline.

k. Camouflage. This is a live subject on this front. The British do this much better than we do, particularly individual camouflage.

(See report on British Battle School.) During the training period at least one officer in each regiment, specially trained in camouflage, should be charged with this training. In all tactical exercises, bivouacs, or wherever applicable he should act as a camouflage umpire, requiring correction of deficiencies on the spot. Troops should never be permitted to neglect camouflage in tactical exercises because of lack of time. Our training, to date, on this subject has not been sufficiently thorough.

l. Booby Traps. This is a loose term which applies to improvised mines and all sorts of explosive gadgets used in this area. In addition to the usual type, such as fountain pens, cameras, cigarette cases, colored balls, etc., used by the Germans, the following are of interest: A bayonet stuck in the ground, a shovel or weapon lying on the ground, abandoned ammunition or rations, or an abandoned fox hole may be wired to an explosive charge. A patrol, rapidly withdrawing under pressure at night, places a mine on each side of the road or trail connected by a wire, or these may be dropped in weeds or deep grass or strewn from the back of a truck. In any case, they discourage rapid pursuit. Mine fields, and particularly dummy mine fields, are seeded with anti-personnel mines and booby traps. Many times the boards marking a mine field are wired. Around some of our own advance airfields and outposts mines or grenades are placed connected by trip wires. This is to alert troops at night if any enemy patrols are around. The Germans have been dropping from airplanes what is called butterfly mines because of their shape. These are scattered on or near an airfield by the first plane over. Men, rushing out in the dark to man the planes or AA defense, step on these and become casualties.

Senior officers in this area strongly urge that troops being trained in the United States for this theater be thoroughly trained in the use of booby traps, both offensively and defensively. Offensively for use against the enemy; defensively to guard against their use by the enemy.

m. Anti-tank Mines. These are used quite extensively by both ourselves and the enemy. Dummy mine fields are frequently placed where a mine field would most obviously be, while nearby in a less favorable location is the real mine field. Dummy mine fields always contain anti-personnel mines and booby traps. Mines are never placed in straight rows or symetrical patterns as shown in our Field Manual. This makes it easier for the enemy to lift them. All of our infantry should be trained in placing mines, marking mine fields, lifting mines, and avoiding enemy mine fields. This should not be entirely passed over as an engineer job. In the British infantry, every man carries a small anti-tank mine; the 75 or Hawkins Grenade. One of our division commanders thinks so well of this that he succeeded in procuring from the British nearly enough to equip his unit. This means that every small unit always has its own little mine field out in front. The idea is certainly worthy of consideration by us.

n. Marching and Physical Training. Troops in North Africa have attained a high standard of physical condition, stamina, and marching ability. Various methods of training in marching have been employed. The general method of training is a systematic, planned program of purposeful

physical training which includes training in marching. Men are taught the technique of marching and then continue the training by progressively increasing the distance or shortening the required time as the development of the men warrants it. The standard required is a 20-mile march without a long halt. One regimental commander trained his unit by short fast marches setting a standard of five miles in one hour. One communications platoon reported a march of 12 miles in two hours and 35 minutes with no man falling out. Care must be taken not to overdo this and march men to the point of exhaustion. This can be done when necessary, but not in training. Marching and purposeful physical training must be given more emphasis, and we must have a planned, coordinated, systematic program of training in these subjects.

o. Driver and Mechanic Training. Because of shortage of motor vehicles and spare parts, driver and mechanic training here are of great importance. The principal supply roads are narrow, sharply-curved mountain roads. Much driving is required at night without lights and in deep mud. Distances are great, approximately 600 miles from port to front line. One regiment is hauling rations over a mountain road at night, requiring 175 miles round trip. There have been many accidents damaging or destroying vehicles which cannot be spared. Some cases have been noted of drivers who are excellent in daytime but worthless at night because of lack of night vision. Many times accidents occur before this is discovered. Because of the supply situation with regard to replacement of motor vehicles and spare parts, there must be more intensive training of drivers and mechanics and more careful selection of men for this training.

p. Officer Candidate School. There is a small OCS in England but none in North Africa and none contemplated for the near future. Worthy enlisted men may be recommended by their commanding officer, be examined by a board of officers and, if approved by the corps commander, they will be commissioned. It is believed that such a system will not maintain the high standard set by the Infantry School. A small OCS with a short course would insure a more uniform and higher standard of junior leadership.

4. Weapons.

a. The M-1 Rifle. This weapon has proven highly satisfactory in landing operations, salt water, sand, mud, dust, and desert fighting. It is only a matter of correct training and discipline to insure its proper care. Every man carries a rag and small can of No. 30 oil. Care is taken by officers and men that all rifles are kept clean and oiled at all times. There were very few cases of malfunction where this was done.

b. The 37mm Anti-tank Gun. Two general officers condemned this gun as useless as an anti-tank weapon and strongly recommended that it be discarded. They stated it would not penetrate the turret or front of the German mediom tank, that the projectiles bounced off like marbles, and the German tanks over-run the gun positions. The G-3 of the Allied Forces informed me that the above recommendation had been approved and they do not want the 37mm gun. This observer went into the question rather

thoroughly on his own initiative and believes that such action is hasty and ill-advised at this time. An excellent weapon is being condemned without a fair trial. We always knew that it would not penetrate the front or turret, but if used properly, it will disable the German medium tank. I was informed that low-velocity training ammunition was being used; that there was no high-velocity AP ammunition available. The guns were not sited in defilade from the front. It was never intended that this gun could sit out in the open using low-velocity ammunition and frontally "slug it out" with a German medium tank. The gun, properly used, will do all that was ever claimed for it. One tank destroyer unit using 75mm guns and only a few 37mm guns in one action destroyed or immobilized 13 German tanks. Of this number, it is definitely known that two of the tanks were put out of action by the 37mm gun. (See Appendix 9) It is believed that the question of discarding the 37mm gun should be held open until more battle experience is gained, using the gun properly with high-velocity ammunition. One Major General, who had experience with the gun, agrees with this. At any rate, the gun should be kept in the battalion, if for no other purpose than because of its effectiveness against targets other than tanks.

c. Heavier AT Gun for Infantry Regiment. Our attacks on this front in the initial advance were stopped by German tanks. In the defense, German tanks over-ran our infantry positions. It was the consensus of opinion of officers on this front that the infantry regiment should have a gun, immediately available, heavy enough to stop an attack of German tanks or at least break up and disorganize such an attack. It was thought the 75mm SP gun was suitable and at least three of them, or a similar heavy weapon, should be in the regimental AT Company or cannon company. The German 88 is the weapon par excellence for this purpose and they seem to always have them immediately behind their front line both in attack and defense. This stopped our attack and counterattacks which were supported by tanks.

d. Anti-tank Mines. Our AT mine is good but its size, shape, and weight is such that it must be carried in motor transport and is not always readily available when needed by front-line infantry. At least one division commander and many other officers believe that consideration should be given to the adoption of a mine that can be carried by the infantry soldier. The British 75(Hawkins) grenade is ideal for this purpose. (See par. 15, l & m above.)

e. The AT Rifle Grenade and Rocket Grenade. Not sufficient battle experience data is available in this area to form an opinion. The weapons had been recently issued and men were not trained in their use, particularly as to marksmanship. In spite of this, some good results were obtained, particularly with the rifle grenade against personnel and machine guns. Men are now being trained behind the lines with these weapons and good reports are expected in the near future.

f. The .50 Caliber Machine Gun. A few more of these should be assigned to the infantry regiment for AA protection. (See par 15 e above.)

g. Somke Bombs. Very little if any smoke has been used in this theater other then for harbor defense against air bombing. However, it is believed that it should be used and that more of it will be used when major operations start. The British use lots of smoke in their training. (See Appendices 3 and 4.) I am convinced of its efficacy, particularly on terrain of this nature where there is no cover, but have had no opportunity to actually observe it in combat. The British have a very effective smoke bomb for their 2-inch Mortar and also a smoke hand grenade. It was observed on one occasion that only three bombs from the 2-inch Mortar made a very effective smoke cloud to cover the advance of a platoon. It is realized that we have a smoke bomb for our 81mm Mortar. If we already have one for the 60mm mortar, then it should be issued for training, and its use encouraged in all suitable tactical exercises and maneuvers. If we do not have one, then it should be developed at once in order that the platoon may always have smoke immediately available.

5. Equipment.

a. Utility Pouch. There is a decided need for some means of carrying grenades other than in the pockets. This method of carrying was found in battle to be very unsatisfactory, particularly because they were too hard to get at when needed in a hurry. The British infantry is equipped with a utility pouch which is believed to be very satisfactory. It, or some other means of carrying grenades, should be given early consideration.

b. Ration. The C ration is excellent but a cumbersome thing to carry. Because of this, it is not suitable for landing operations. The K ration was considered quite good for short periods. The British ration is packed in such a manner that it is more convenient to handle. Many of our units were on the British ration. It is quite good and they like the way it is packed. The British "48-hour ration" fits inside the mess kit. The British "Compo" ration is packed in a light wooden box containing 14 rations. With a can of Sterno heat it is easily and quickly prepared and very convenient to handle. For example, a squad of 14 men can be given one of these boxes each day, or three boxes will take care of a platoon. This ration, like the C ration, can be used either way or eaten cold. The convenience and method of packing is very popular with our troops and might well be given some consideration. Individual or small unit cooking is not desirable in situations where the field range can be used.

c. Barracks Bags. One division which took part in the landing and in the advance recommends that the barracks bag should be discarded immediately and the marine sea bag be adopted in lieu thereof. They would like to have this recommendation considered as urgent.

d. Field Range. The field range is being used by all units both in the rear areas and on the front and is considered quite satisfactory. Individual and small unit cooking is seldom used and only when absolutely necessary. The only gasoline available is low octane leaded and this gives considerable trouble. There also appears to be great difficulty to procure

spare parts. It is recommended that further effort be made to develop a burner that will not clog so badly. Many improvised methods are used on the front particularly for heating water or for heating the C rations by isolated individual or small groups. The most popular seems to be a can of sand saturated with gasoline. Wood or other fuel is not available.

e. Water Heater. The washing of mess kits at the front and having an ample supply of hot water are still problems. One unit, before leaving the states, purchased a gadget known as the Gold Medal Water Heater. It is manufactured by a firm in Des Moines, Iowa, and is a small, inexpensive, light-weight, gasoline-burning device designed on the principle of an enclosed blow torch. When placed in a GI can it will bring the water to a boil in 20 minutes. The Chief Medical Officer of the Allied Force strongly recommends and urges that it be adopted as standard and issued to this force as early as practicable. He states that he made a similar recommendation a year ago. I know of no one item of equipment that would be more welcome to the troops in this area. Hot weather and flies are coming. A little dysentery is already present. Every effort must be made to facilitate sanitation and the sterilization of mess kits. It is recommended that action be taken in this matter.

f. Gas Mask and Gas Equipment. In order to maintain the marching speed of the foot soldier, the equipment carried must be reduced to the minimum. It was found that this particularly applies to landing operations. Many soldiers were thrown into the water and required to swim some distance. Upon reaching shore, it was necessary to move fast to seize the objective. This called for considerable marching at the maximum rate. In addition to his essential combat equipment, the soldier carries a heavy cumbersome gas mask, gas cape, sleeve gas detectors and shoe impregnite. This is not only an extra burden in marching but also a nuisance to care for in bivouac, shelter tent, or fox hole. It is believed that a light-weight gas mask, good for a four hour concentration, would answer the purpose for the time being so long as there is only a remote possibility of encountering toxic gas. The heavier mask and other equipment could be held readily available for issue to the soldier in case need for it is indicated. A senior officer of the CWS agrees with this and states that such a light-weight mask has been developed and is practicable. A man in the water so burdened is helpless and almost sure to drown.

g. Ambulances and Litters. Most medical officers on this front urgently recommend for consideration the adoption of a four-wheel drive, low silhouette vehicle with a capacity of two or three litters for use as a strictly front-line ambulance. Something similar to the 1/4-ton truck or the 3/4-ton weapons carrier would be suitable. These and the half-track carrier were used as ambulances in the landing operations. Because of the vast distances and the heretofore unheard of unit fronteges, the conventional litter bearer method of evacuating casualties is out of the question. The present ambulance is all right for the service for which it was intended. It is not suitable for front-line service because of its high silhouette and lack of cross-country ability. On this front, both British and American units sometimes operate in the same area. Some confusion is

caused because the American litter will not fit in the British ambulance. The British litter will fit in either ambulance. I was told that a slight change of the American litter would correct this.

h. Motorcycles. One division commander and several other senior officers recommend that a light solo motorcycle be assigned to the infantry division and regiment for column control and messenger service. Control and communications were most difficult in the landing operations and in the initial advance, particularly because in most cases the radio was out of action, caused by dampness from sea water. Motorcycles would have been most useful. The nature of the narrow winding mountain roads in this theater and the narrow roads in England makes column control with a 1/4-ton truck impractical. It is believed that the British BSA is much better for this type of service than the heavier American machine. A number of these in the infantry division and regiment would be most desirable.

6. Clothing.

a. Shoes. It is the consensus of opinion here that the issue shoe is not suitable for this type of service. One regimental commander reported that, on a 20-mile march in the mud, many of the composition soles came off. A division commander blamed the composition soles for many blistered feet. Most infantry officers here think the shoe is too light weight. The older officers, who had experience with it, almost all recommend the marching shoe used in World War I.

b. Field Jacket. In one division nearly all the officers had procured the combat jacket worn by armored force officers. This observer wore the regular issue jacket most of the time and considers it a very satisfactory garment. Because of its unmilitary appearance, its wear should be prohibited except when actually in the field.

c. Knitted Cap. Many of the Armored Force officers wore a knitted cap under the helmet which they stated was an article of issue. None of the infantry had this cap but believe it would be very desirable.

d. Two-Piece vs One-Piece Garments. This question, with regard to underwear and work clothing, seems to be largely a matter of personal taste. No recommendation is offered.

SECTION III

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

1. Summary of Section I.

Section I of this report deals entirely with British schools and British methods of training in the United Kingdom. The British schools and training centers are small and specialized. Instead of having one large

centralized school, such as our Infantry School at Fort Benning, they have small separate schools for various phases of infantry training. This is true of all except the Royal Artillery School. The training centers are small and highly specialized, organized for a specific purpose such as the Combined Training School for training not more than a battalion or t two at a time for a specific task force, the Commando Training Center, and the Street Fighting School.

2. Summary of Section II.

Section II deals entirely with those matters which it is believed are of interest to the infantry, collected as the result of experience of commanders and troops in North Africa. A variety of subjects is covered under the general headings of Personnel Matters, Combat Intelligence, Training Matters, Weapons, Equipment, and Clothing. Much of this matter is in the form of opinion of the observer, but this opinion is based upon personal observation, conference with most of the general officers in the theater, with hundreds of subordinate officers and soldiers, and investigation and study of the subject covered. The report is confined to matters which it is believed would be of interest to those officers of the Army Ground Forces in the United States charged with the responsibility for the planning, organization, equipment, and training of troops intended for service in the North African theater.

3. Conclusions.

a. The British system of small schools and training centers each covering a certain phase of training has many advantages. Its principal disadvantage is limited output, duplication and a certain lack of coordination. For example, three different schools touched on the subject of camouflage and each one differently. The same may be said of the use of smoke, marching, physical training and many other subjects. These disadvantages are not the fault of those in authority but are inherent in this type of organization.

b. There is much for us to learn from the British schools and specialized training centers because of the greater war experience of those in authority. The theories expounded and doctrine taught have been learned the hard way. They are the result of war experience and, therefore, carry the weight of authority.

c. Our infantry in North Africa is exceptionally outstanding in every way. Their physical condition, stamina, and marching ability is equal to, if not better, than the troops of any other nation I have seen. Their morale is high and their fighting spirit is of the best. The potential leadership ability of junior officers and non-commissioned officers is all that might be expected of the cream of young Americans. Minor corrections in their training and a little more battle experience will bring this out to a marked degree. The discipline of our troops is sometimes compared unfavorably with that of our European allies. We do need more and more training in battle discipline, but we must bear in mind that American

military discipline is of a different type. It is based upon leadership, upon confidence and respect for the leader. With the high quality of our leaders, we may be assured that the necessary battle discipline will be there and may be depended upon in the hard going when most needed. Our weapons, equipment and clothing are, of course, the best. The statements made in this report must in no way be construed as criticism. They are merely suggestions and recommendations as to what we in the AGF in the United States might do to help the commanders and troops on the North African front, and to help us do our job with the same high standard of morale and efficiency that they are doing theirs.

4. Recommendations. This report covers such a broad and varied field, and the recommendations concern such a multiplicity of subjects that it was thought best for the sake of simplicity and clarity to include them in the paragraph with the subject to which they pertain.

APPENDICES (On file at Hq, AGF)

1. Liaison Visit to the 29th Infantry Division.
2. Report of Visit to Physical Training and Small Arms Firing Schools.
3. Observer Visit to British Battle Schools.
4. Report on Combined Training and Commando Training.
5. TM No. 4, Allied Force Hq., 28 December, 1942. Notes on Recent Fighting in Tunisia.
6. TM No. 2, Allied Force Hq., 7 January, 1943. Notes on Recent Fighting in Tunisia (No. 2).
7. Compilation of Reports on Lessons of Task Force Operation.
8. Proposed Draft of Training Directive for Allied Force. (Not yet approved, therefore unofficial, but contains interesting training information.)
9. Report on Observed Action of the 37mm Gun.
10. Interviews with Maj. Gen. Ryder, Brig. Gen. Porter, and Brig. Gen. Cota, and Notes from Interview with Other Officers.
11. Itinerary and Items of Interest for Officers Going to this Theater.

Robert S. Miller

ROBERT S. MILLER,
Colonel, Infantry,
Observer, A.G.F.

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SECRET
By Auth CG, AGF
Date 3/13/43 [initials]
(Initials)

HEADQUARTERS
ARMY GROUND FORCES
Army War College
Washington, D. C.

319.1/39 (Foreign Obsrs) (S) GNGBI
(3-13-43)

March 13, 1943.

SUBJECT: Observer Report.

TO: Commanding Generals,
Second and Third Armies,
III, IV, VII, VIII, IX,
X, XI, XII, XIII and XV Corps,
II, III and IV Armored Corps,
Airborne Command,
Amphibious Training Center,
Antiaircraft Command,
Desert Training Center,
Mountain Training Center,
Replacement and School Command,
Tank Destroyer Center,
Chief of the Armored Force.

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1. The inclosed joint report of Lt. Col. Albert B. Crowther, G.S.C., and Major Burton E. Miles, QMC, Observers from Headquarters Army Ground Forces to Northwest Africa, for the period January 27, 1943, to February 20, 1943, is furnished herewith.

2. Distribution to divisions has been discontinued by the Commanding General, Army Ground Forces. Reproduction and distribution of observers' reports to subordinate units is not authorized.

3. The data and recommendations contained in this report represent the views of the individual observers and are furnished for information only.

4. Changes in training doctrine as enunciated in War Department publications, which are necessary because of the information contained in observers' reports, will be published by the War Department. Changes in training directives of this headquarters, which are necessary because of information in observers' reports, will be promulgated by this headquarters.

By command of LT. GEN McNAIR:

J. R. DRYDEN,
Lt. Col., A.G.D.,
Ass't Ground Adjutant General.

1 Incl - Report of Military Observer.
(Information copies to WD GS, SOS, AAF.)

CLASSIFICATION changed to
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Catherine L. Zuelberg

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SECTION I

PERSONNEL

1. REPLACEMENTS. Considerable difficulty is being encountered by front-line units in securing adequate replacements. Of the replacements received, 80% were not qualified in the basic weapon and 40% were not properly equipped. About 50% of the specialists requisitioned have been filled, but for many specialist requests none have been provided.

The 1st Replacement Depot, located at Oran, Algeria, is forced to fill requisitions from one branch with personnel trained in another branch due to the lack of personnel available for the various branches. Majority of troops received by the replacement depot from the U.S. have had basic training only and are not ready to fill existing vacancies in a combat team engaged with the enemy. Personnel sent to this theater of operations to be used as replacements should have sufficient training to enable them to go into combat immediately.

2. CASUAL DETACHMENTS. Corps and division headquarters have found it necessary to organize provisional casual detachments to care for replacements and personnel returning from hospitals. Wide fronts and tactical groupings prevent the immediate return of personnel to assigned units. Tactical groupings often result in companies being as far as 100 miles from division headquarters. Many times casual personnel must be re-equipped before joining a company in contact with the enemy.

It is recommended that overhead personnel to operate the casual detachment be authorized and trained.

3. RECLASSIFICATION OF OFFICERS. It has been found necessary to request the reclassification of officers who have not proven satisfactory under battlefield conditions. The present system is too slow and cumbersome, a minimum of six weeks being required to effect a transfer. It is recommended that a more effective system be devised.

4. BILLETING. Due to the necessity of utilizing all available facilities, especially in the rear and rest areas, the work with the local authorities and population is requiring the time of certain personnel. It is recommended that personnel trained in this special type of work be authorized for this theater of operations.

5. STAFF SECTIONS. Distances involved on the front require division headquarters general staff sections to operate in a minimum of two echelons on a 24-hour basis. The officer personnel authorized by present TO's is insufficient for the duties required and divisions have been forced to take officers from the troops to assist in the staff sections.

It is recommended that a 50% increase be made in authorized officer personnel on division staffs.

SECTION II

INTELLIGENCE

1. COMBAT INTELLIGENCE.

a. Procedure. Combat intelligence procedure in this theater differs from teachings in service schools and in practice in maneuvers in only one respect worthy of mentioning. The Corps G-2 Section issued orders in a number of instances direct to small task forces. Such orders were, generally, a patrol and reconnaissance mission of a particular area which normally are given through channels.

This method, while appearing unorthodox, was actually the most effective way of obtaining quick results. The nature of the terrain was such that corps units consisted of six to seven combat groupings or task forces covering a frontage of approximately 80 miles. The distances from the corps CP to the CP of these units averaged 60 miles and telephone communications had been established.

These missions were coordinated with the G-2 of the 1st Armored Division, with reports of reconnaissance submitted in detail to both division and corps G-2's.

b. Section Organization. In no headquarters was the G-2 Section able to function efficiently on a 24-hour basis with officer personnel covered by T/O. Augmenting of this personnel was necessary due to the tactical situation. For example, the 1st Infantry Division, operating under the French 19th Corps, had its CP at MAKTAR and advance CP's at PICHON and OUSSELTIA. One or more officers of the G-2 Section operated at each of these CP's.

The dispersion of this personnel is necessary to obtain the desired results. Night patrolling is carried out aggressively along the entire front; an intelligence officer by questioning the patrol leaders develops much important information; natives quite frequently drift through the Axis lines, are picked up by our patrols and brought in for questioning; prisoners of war are brought in for prompt interrogation. The intelligence officers of lower echelons cannot always develop the vital information in time to be of value. Enemy movements are made under cover of darkness and as he has the initiative--delay in getting information of movements, etc., is hazardous.

An officer is also responsible for the functioning of the Field Security Detachment, normally consisting of one officer and 3 to 5 enlisted men. This detachment is particularly valuable in an offensive operation. Upon capture of a town, this personnel, operating with the assault units, promptly searches all government and municipal offices for documents of military value, sees that control of telephone and telegraph offices are in friendly hands, and is responsible for clearing area of booby traps. It has been found that the assault units are too busy to perform these functions

efficiently and are glad to have the responsibility taken over by experienced intelligence personnel. None of the units visited have personnel trained at the Military Intelligence Training Center, Camp Ritchie, Md., operating with them.

Every intelligence section, particularly corps and division, should have: 3 to 5 enlisted men thoroughly familiar with the enemy order of battle texts published by the War Department Military Intelligence Division; qualified German and Italian speaking interrogators; French interpreters, and aerial photo interpreters.

c. Aerial Photos. Supply of aerial photos for intelligence studies in this theater is unsatisfactory. Their use is invaluable, particularly because of the nature of the terrain and the difficulties of obtaining information from purely aerial reconnaissance missions.

The terrain offers little in the way of overhead cover, but the innumerable dry creek beds, gulches, and rocky slopes offer concealment from fast-flying reconnaissance planes.

Daylight reconnaissance by ground elements is hazardous and limited. In no instances have operations of this nature succeeded in reaching enemy rear areas, and night patrolling succeeds only in getting information of forward elements. Consequently, aerial reconnaissance and photographs remain as the principal means of obtaining information ofenemy rear areas. Objective aerial photographic missions are necessary.

American aerial photographic equipment is practically non-existent in the theater, and British equipment is limited.

Requests for photographic missions must be made to the British First Army and while they are giving the best service possible, it is far from satisfactory. It takes approximately 24 hours to get a single print of stereo-pairs. These photos are taken at one of two altitudes; ground level or at 25,000 feet. Scale of photos - 1/10,000.

RECOMMENDATION: American photographic equipment, supplies and operating personnel should be sent to this theater at the earliest practicable date.

d. Prisoners of War. Failure on the part of lower echelons to properly disarm, search, and segregate prisoners was very noticeable. Frequently, prisoners reaching corps P/W enclosure had pistols and long knives on them and further search of them brought to light documents of military value. The attitude of the capturing personnel is that they are too busy to perform this essential function.

RECOMMENDATION: Each infantry company include in the headquarters two specialists, intelligence, trained in this function.

2. COUNTERINTELLIGENCE. The outstanding compromise of counter-intelligence measures was burning of wood fires during daylight by personnel of the II Corps Headquarters. This was a large installation, well concealed from aerial observation otherwise. The smoke caused by the fires was visible from any altitude and the CP was, no doubt, located by hostile reconnaissance planes. All other troops religiously refrained from this practice.

3. C/S SYSTEMS. For some unknown reason C/S systems have ceased to function in front-line units. While the administrative work should be cut to the minimum, it is believed that the continuation of this work is essential.

RECOMMENDATION: Specially trained personnel be attached to divisions to handle this work under the supervision of G-2.

SECTION III

OPERATIONS AND TRAINING

1. INFANTRY.

a. In general, employment of the infantry regiment (rifle) in this theater has been in keeping with training doctrine. However, the situation dictated by the nature of the terrain, has developed a tactical grouping of forces consisting of infantry, tanks, artillery and tank destroyer units which make up a small task force of considerable fire power and mobility. Units from rifle regiments are being used in this respect and are consequently confronted with problems somewhat different from their customary ones. The problems are not difficult, although there is some indication of confusion, particularly on the part of junior officers, when they first come face to face with this situation.

The commander of this task force is an armored division officer; he is a tank man. His conception of the employment of this infantry is in keeping with the principals of employment of the armored infantry of the armored division. In other words, there does not exist a complete understanding between the commander and his infantry officers. Warfare in this theater will continue to require these groupings.

RECOMMENDATION: Joint training of infantry and armored divisions should be developed and emphasized.

b. The infantry divisions in this theater have had little if any training in similar terrain. Except for a limited number of mountain passes and defiles, it is difficult to operate over. As a result, officers and men face problems with which they have never been confronted before. They do not have a clear concept of the advantages or disadvantages of the terrain, the minor tactics are different, their supply problem is different.

RECOMMENDATION: Special training in mountainous terrain in the States for units destined for this theater.

c. There exists in this theater two schools of thought concerning the .30 caliber heavy machine gun. Some officers contend that the weapon is too cumbersome, requires too many men to operate, and is too slow in getting into action. Others contend that it is an excellent weapon when manned by properly trained personnel and employed properly.

It is believed that these differences of opinion are due to two factors: First, the inexperience of both officers and men in operations on terrain of this type; and second, the lack of training in indirect fire support.

RECOMMENDATION: Training of personnel on terrain of similar nature. Small tactical problems to include preparation and firing of final protective fires with ball ammunition over heads of troops.

d. Training Subjects to be Stressed.

Night patrolling.
Map reading.
Detection of booby traps and land mines.
Aerial gunnery. .50 caliber machine gun.
Care of arms and equipment, particularly M-1 rifle. (Old tooth brush carried by each individual armed with the M-1 rifle has proven invaluable for this purpose.)
Use of rocket launcher.
Dispersion and camouflage of installations and vehicles.

2. FIELD ARTILLERY.

a. Field artillery units in this theater function, for the most part, under centralized control of the division artillery officer. The terrain is ideally suited for artillery. Ground observation is available everywhere, consequently conduct of fire is almost entirely by forward observer methods.

Excellent results have been obtained by development of observed fire charts. Innumerable check points are established by battalion for not only single battery positions but for alternate positions. This has resulted in very effective fire being brought to bear quickly on targets of opportunity.

RECOMMENDATION: Training in forward observer methods to be stressed.

b. Some suggestions which may be helpful to field artillery units follow:

Learn to operate with 1/25,000 or 1/50,000 topographical maps.
Prepare range deflection fans for these scales.

Obtain full TBA .50 caliber ground and vehicle mounts.
Obtain full allowance of M-3 binoculars.
See that fire control instruments are in perfect condition.
No repair facilities are available.
Teach batteries to dig in, disperse and lay lateral wire line between sections to facilitate control by battery executive.
Supply salves with ample firing tables for time shell.

3. ENGINEERS.

a. Combat engineers in this theater are used principally for road maintenance and mine laying, detecting and removing. No bridge construction and very little bridge maintenance has been necessary.

b. Road maintenance would be facilitated for the units in the theater if they were provided with 2½-ton dump trucks, road graders, steam shovels, and asphalt road maintenance equipment.

RECOMMENDATION: Division engineer battalion and corps regiment be supplied with:

2½-ton dump trucks instead of 1½-ton.
Road graders on basis of 1 per battalion, 2 per regiment.
Steam shovel and asphalt road maintenance equipment for corps regiment.

c. Combat engineers should be equipped with mine detectors on the basis of two per platoon and training in their use stressed.

In connection with laying of mines, accidents have occurred by personnel fusing mines at a dump, loading them, and transporting to field. These mines must not be fused until actually ready to be laid.

Every vehicle driver should be trained to look for and recognize mines.

SECTION IV

SUPPLY

1. PRINCIPLES OF OPERATION. Tactical groupings in which small task forces are spread over wide fronts result in supply personnel of small units (regiments and battalions) operating as independent units without the aid of the general and special staff and service troops of their division.

[redacted] of the 1st Armored Division are grouped into five separate task forces that are spread over an 80 mile front. With limited road net, it is impossible for division service elements to service all of these forces.

Therefore, supply personnel of the smaller units are required to do for their groups that which would normally be performed for them by division G-4, QM, Medical, Signal, Ordnance sections. For this reason, personnel of the small units should be trained in the procedure to be followed in accomplishing missions usually performed by the general and special staff sections.

In these instances, unit S-4's deal directly with Army, Corps, or other supply agencies. Division special staff sections and service troops are not so organized as to permit their operation in five echelons to support these task forces.

Supply personnel of the regiments and battalions must be augmented and trained in these functions or else the division service troops must be reorganized so that they may be capable of functioning in at least four echelons.

This variation from accepted principles of operation also reflects itself in corps supply sections. II Corps has had to operate four separate railheads or truck heads for the armored division and attached troops. This uses corps service troops which normally could be attached to the task forces, again leaving the regimental S-4 to function as an independent agency.

Furthermore, in the task force groupings, the regimental or battalion S-4 usually has various separate units attached totalling 50% to 100% of its own strength that do not have organic supply personnel.. In short, the tremendous distances which have required special tactical organization also require special supply organization. This can be met either by an increase of supply personnel in lower echelons or by the reorganization of division supply troops to permit operation in four or more sections.

2. CLASS I. Packing of the "B" ration in units of eight to ten rations per container would greatly facilitate its issue to front-line units. Such a standard pack would also save time and labor for all supply echelons in foreign theaters. Breakdown and issue of a "B" ration at a railhead in forward areas under blackout conditions is not feasible. A standard pack, however, containing a given number of rations, could be handled at the front as easily as "C" or "K" ration.

3. CLASS II. For this theater, an outer garment similar to the British battle dress is desirable. It provides the necessary warmth without bulkiness. The only American-made garment that compares favorably with it is the combat suit. Without exception, American troops interviewed preferred the British battle dress with the combat suit as an alternative. Under either, the soldier likes to wear heavy underwear and herringbone twill suit. Dressed thus, maximum warmth with minimum bulk is attained.

4. CLASS III. The use of the five-gallon container exclusively for supply to front line units has eliminated storage problems and has made possible the establishment of many supply points, thus giving combat troops ready access to the supply. There is no need for the gasoline dispensing unit in the forward area.

5. CLASS IV. Complete shortages of many items of Class IV and Class II property are due principally to the failure to anticipate rapid movements forward and the failure to establish intermediate bases when the supply lines lengthened over an area without adequate rail facilities. This situation is now being remedied by the establishment of forward bases.

6. CLASS V. Units of fire are used as gauges in planning phases as well as in setting level of reserves to be maintained. However, due to the nature of the tactical operation, the term "unit of fire" is of no value in allotting or controlling issue to combat troops. Wide fronts and rapid movements permit the enemy to strike over wide area in any desired strength without notice.

Front-line units replenish organic loads as expended from division dumps, which are forward sufficiently so as to allow unit trains to reload in short time. Division ordnance section replenishes division dumps daily on basis of issue at dumps.

Forty percent of the 105mm howitzer ammunition reaches the front in unusable condition. The packing container is so light that the cases are usually bent or dented to such an extent that they cannot be used. In order to facilitate handling under blackout conditions, it is also desirable to have packing where single unit will not weigh over 100 pounds.

7. TRANSPORTATION. Rapid advance of combat elements after initial landing has lengthened the supply line to approximately 800 miles. The rail net over this 800 miles is very limited, having a maximum capacity of five trains, each of 250 tons, per day.

Shortage of motor equipment prevents supply movements over the highways. At present, motor tranpsortation is sufficient only to meet requirements of front-line units.

Highways, though limited, are suitable for supply movement. Two or three engineer regiments (general service), with asphalt maintenance equipment, could put the highways in condition for the movement of supplies by truck.

Any type of general cargo truck could be used for this purpose. The vehicles would have to be supplied, however, as there are none available at present.

Great need exists for a tank mover and recovery vehicle. At present, American troops are dependent on English equipment for movement of tanks. The English have approximately 50 tank movers in this theater.

8. EVACUATION. Distances involved have necessitated new means of personnel evacuation. II Corps has successfully used [illegible] through air evacuation. C-47 planes are being used for this purpose. Patients, well wrapped in blankets, are placed on floors of planes, thus not requiring

any special equipment in the plans.

To date, ambulances have been able to make pick-ups on the front line, thus reducing the need for litter bearers, but increasing the need for ambulances in medical units.

Evacuation by air is proving very successful and seems to be the only method of accomplishing results in a fast-moving situation.

In rapid-moving situations, transportation will seldom be available for moving station, base, or general hospital units in time to give close support.

SECTION V

APPENDICES

App. No.	Title
1	Itinerary.
2	Lessons Learned from Task Force Operations.
3	G-2 Weekly Summary, Allied Force Headquarters.

(Appendices on file at Hq, AGF.)

END

A. B. Crowther

A. B. CROWTHER,
Lt. Col., G.S.C.

B. E. Miles

B. E. MILES,
Major, QMC.

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HEADQUARTERS
ARMY GROUND FORCES
Army War College
Washington, D.C.

By Auth CG, AGF
Date 3/17/43 [initials]
(Initials)

319.1/43 (Foreign Obsrs) (S) GNGBI
(3-17-43)

March 17, 1943.

SUBJECT: Observer Report.

TO: Commanding Generals,
Second and Third Armies,
III, IV, VII, VIII, IX,
X, XI, XII, XIII and XV Corps,
II, III and IV Armored Corps,
Airborne Command,
Amphibious Training Center,
Antiaircraft Command,
Desert Training Center,
Mountain Training Center,
Replacement and School Command,
Tank Destroyer Center,
Chief of the Armored Force.

1. The inclosed report of Major George W. Croker, CAC, Observer from Headquarters Army Ground Forces to the United Kingdom and North Africa, for the period November 16, 1942, to February 5, 1943, is furnished herewith.

2. Distribution to divisions has been discontinued by the Commanding General, Army Ground Forces. Reproduction and distribution of observers' reports to subordinate units is not authorized. 18

3. The data and recommendations contained in this report represent the views of the individual observer and are furnished for information only.

4. Changes in training doctrines as enunciated in War Department publications, which are necessary because of the information contained in observers' reports, will be published by the War Department. Changes in training directives of this headquarters, which are necessary because of information in observers' reports, will be promulgated by this headquarters.

By command of LT. GEN. McNAIR:

J. R. Dryden
J. R. DRYDEN,
Lt. Col., A.G.D.,
Ass't Ground Adjutant General.

1 Incl - Report of Military Observer.
(Information copies to WD GS, SOS, AAF.)

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By Catherine Zeelberg

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OBSERVATIONS IN THE UNITED KINGDOM AND NORTH AFRICA.

SECTION I - GENERAL

1. PERSONNEL.

a. Enlisted Men. (1) The morale of the American enlisted man is excellent. He is anxious and willing to fight and has confidence in the fact that he is better than the enemy. The outside factor which most influences his morale is the lack of mail from home. On my arrival in the North African theater, the mail service to the troops east of Algiers was very poor. In many cases, men had received no mail for periods of two to three months. On January 31, 1943, I witnessed the receipt of several bags of mail by the troops stationed at GAFSA--the first mail that a majority of the men had received in over two months. Only a war dance would have compared with the demonstration that followed the distribution of that mail! On February 5, 1943, I visited the APO at Algiers through which all mail going to the front must clear. The postal officer in charge stated to me that there had been a tremendous improvement in the way mail was getting to the front-line troops.

(2) The physical condition of the American troops was excellent. The actual physical labor that active combat requires kept the front-line troops in fine condition. Troops stationed at GAFSA would often go on as many as seven successive night patrols.

b. Officers. The morale of officers was greatly influenced by the fact that there was often times little hope for promotion due to the lack of any vacancy in the organization in which they were serving. In one unit observed, the unit commander was so obsessed with the futility of his situation concerning his not being able to be promoted that he exerted an unfavorable influence on his entire unit. The factor that "got them down" was reports from the United States of the rapid promotion of officers who had long been junior to them.

2. TRAINING.

a. There was very little organized training going on in the theater. Practically all of the training observed was instigated by lower unit commanders who realized its necessity. That training should be done, and can be done, in active theaters is brought out by reference to the 106th Separate Coast Artillery Battalion (Antiaircraft). Although this unit was the most experienced American AA unit in the theater, it conducted a planned training program which actually was carried through except when it was not possible due to the unit being engaged in actual combat. This unit learned quickly from its mistakes.

b. The American training policies and doctrines are sound except in realism and practicability. The following will greatly improve the results of U.S. training.

(1) The use of "live" ammunition in field problems when troops have reached a state of training just short of being ready for combat.

(2) A 100% insistence that the training of junior officers is practical. Officer candidate schools must stress practical instruction. Battery and company grade officers must be taught the stuff they need to know to make them truly leaders of the command they hold.

(3) Make field training resemble actual combat by introducing situations in which "nothing goes as it was planned".

(4) Training periods should be longer and harder. Make training problems difficult enough so that leaders in all grades can be tested, and relieved if they cannot stand the pace.

(5) Do a lot of training at night. That is, when a lot of the war is being fought. Get used to it now.

(6) Bring officers with combat experience back to the States to be used in new units and as instructors at schools and training centers.

(7) Don't bother units at all in the last two months or more of training with such matters as furnishing officers and enlisted men for cadres.

(8) Place the greatest of stress on air-ground liaison training.

(9) Make a soldier's basic instruction so thorough and complete that it will still be with him when he arrives in the combat zone.

3. EQUIPMENT.

a. It has been found that extensive use of the knife in the mess gear of the American soldier results in its rusting. The fork and spoon do not seem to be subjected to this rusting as is the knife. German utensils of this nature are far superior to our own. They are made of a stainless alloy similar in appearance to Monel metal. Steps should be taken to provide a non-corrosive knife for the mess gear.

b. There is still the complaint that the canteen cup is too hot to drink from long after the liquid in it is too cold to drink. A canteen cup of such material that will not produce this situation appears to be the logical remedy.

c. Much discomfort results when tents have to be pitched during or following a rain. Blankets become wet either by rain or contact with

the wet ground. A waterproof groundsheet could be provided to keep the blankets dry when they are rolled or when they are used on wet ground.

d. It was suggested in one case that if grommets were sewn into the edges of blankets, it would be possible to lace blankets into a sleeping bag.

e. The present suspender harness becomes unduly uncomfortable and fatiguing on long marches. The chief points of discomfort are on the shoulder and collar bones where the metal rings are fitted. To make the shoulder strap of the harness of thicker material and to pad the metal rings would greatly improve the suspenders.

f. There appears to be a definite need of a Boy Scout-type of knife as an item of issue to the individual soldier. The knife issued by the British is an excellent knife for this purpose.

g. There are many objections to the field jacket not being warm enough. A slip-on wool sweater should be issued if the field jacket is to be continued as an item of issue.

h. Many American troops wore the British "battle dress". All troops who had worn it considered it either the equal or better than American uniform. It was felt to be more practical and was warmer. Consideration should be given to the adoption of a similarly-made garment for the United States Army.

4. MISCELLANEOUS.

a. Booby Traps. The Germans go to extremes in the use of booby traps. They are used both on the defense and on the offense.

Areas which have been recently occupied by Germans are invariably filled with fiendish devices to kill the curious or careless soldier. Practically no object is safe to pick up.

Use was also made of these devices by the enemy by bringing them over and dropping them out of planes. I saw several of these objects which were picked up by a bomb disposal company at Maison Blanche. Some of these objects had no reason for construction other than to attract the attention of the curious. One object, for example, looked like a fuse with horns and was painted red. One RAF officer lost his life when his curiosity got the better of him and he picked up one of these gadgets.

One of the devices used was the metal pyramid that consisted of a four-pointed metal object that would always fall with one of the sharp points sticking up. Ten thousand of these were dropped on the airfield at Maison Blanche and caused considerable damage to tires before they were all picked up.

The basic rule is that no one must pick up anything that doesn't belong

to him! One unit commander tested his unit by leaving a fountain pen lying out in the open. It remained there for a period of three days and no one picked it up. This unit had had one man seriously injured who had picked up one of the loaded ones.

b. Basic instruction in security measures must be stressed. For example, many officers do not know how to correctly talk over a telephone without violating security measures. This is particularly true for radios.

c. Replacements were received not trained basically in the arm to which they were assigned. (As the AA had received only a few, this may have been an exception; however, from other units the same report was received.

d. The individual soldier and officer is required to carry too much equipment with him into battle. Careful study must be given to reach a minimum of personal equipment for any operation.

e. Thought should be given to revising our field ration so that it will compare more favorably with the British Compo ration.

SECTION II - ANTIAIRCRAFT

5. THE GROWING IMPORTANCE OF ANTIAIRCRAFT. On December 19, 1942, the Commander-in-Chief of the Allied Forces in North Africa forwarded a radio to the War Department in which he stated "that one of the most obvious lessons of this campaign was the necessity for AA protection for ground troops, and that appropriate AA equipment must be devised and placed in all combat units". In this radio the C-in-C expressed a feeling that is uppermost in the minds of all personnel who have undergone the experience of air attack without adequate AA protection. It underlines that basic fact that a successful operation requires the coordinated effort of every member of the team; and if one member of the team is missing, or is weak, success can be had only by paying for it with the useless loss of lives.

That the need for AA protection for ground troops was not fully realized by many officers of other branches prior to the participation of American Troops in active combat is reflected in all of the teachings in our service schools and in our maneuvers. Altogether too often the AA was left to defend some supply dump or junction in the rear area. I personally recall the almost universal lack of knowledge concerning AA that was demonstrated by students at the Command and General Staff School in September of 1942.

Now the situation is different in this theater of war. No one impression struck me so forcibly as the realization among officers of other branches of the Army of the complete necessity for AA with combat units. During visits with the staff of Combat Command "B" of the 1st Armored Division, I heard nothing but praise for and amazement at the performance of the 106th Separate Coast Artillery (AA) Battalion, which was attached

to the unit for almost the entire campaign. The 106th had, by virtual adoption, become an integral part of Combat Command "B".

One factor that is aside from the actual destructive powers of AA is the factor of the raise in morale which it gives to the fighting troops by its mere presence.

An incident which illustrates the above point came out of the assignment of Battery "D", of the 106th to the 27th FA in the operation of Combat Command "B" near CUSSELITA around January 22, 1943. Battery "D" was defending the entire battalion, which, in this situation, was covering a distance of approximately 1000 yards. The units had barely gotten into position when they were located by a single enemy fighter which evidently intended to strafe the battalion, unaware of the presence of the battery of AA. When met by the fire of the eight Bofors 40mm guns the plane immediately turned aside and departed from the scene. The Battery Commander of Battery "D" stated that he had never seen such a raising of morale among troops as was evident among the members of the 27th FA. They had, on other occasions, experienced air attack without any AA protection.

Even among the Air Force there has been a definite acceptance of the fact that AA is no longer just a "deterrent" factor, but a highly destructive one. Colonel Bunch, of the Staff of the 12th Air Force stated to me that the bombing tactics of the Air Force had been greatly changed due to the effectiveness of the German AA fire. That the Germans have had to change their bombing tactics when confronted with an equal concentration of Allied AA fire as is found around TUNIS and BIZERTE is evidenced by their actions at ALGIERS, where the altitude of their night bombing attacks has constantly gone up.

It is felt that an inadequacy of AA in the theater with which to provide a fair scale of protection to all elements needing it emphatically brought out this new evaluation of AA in the resulting action on the part of various commanders either to get AA troops or to hold on to the ones they already had.

RECOMMENDATIONS:

1. Antiaircraft units should be assigned as organic units to all divisions and be permitted to train with these divisions after completing their training in the Antiaircraft Training Centers.

2. Units should be definitely assigned to the Air Force for use therein and should be permitted to train with the Air Force.

3. More stress should be placed on AA tactics at the Command and General Staff School.

[redacted] Officer of Allied Force Headquarters recommended that [redacted] AA be assigned as organic parts of units in the North African [redacted]

Unit	AA to be Assigned
Fifth Army	One AA brigade of three mobile regiments. Five automatic weapon battalions, separate, mobile.
I Armored Corps	One AA brigade of three mobile regiments.
II Corps	One AA Brigade of two mobile regiments.
Five Divisions	Ten automatic weapons battalions, separate, mobile.

6. CONTROL OF ANTIAIRCRAFT IN NORTH AFRICA.

a. In the North African Theater there is no Antiaircraft Command. There is only one brigade headquarters, the 34th C.A. Brigade, which was located at ORAN. Any function that a higher headquarters similar to an AA command may have had was exercised by the AA Officer of Allied Force Headquarters. The lack of a higher headquarters, or additional brigade headquarters, resulted in a lack of supervision and coordination on many occasions. This lack of supervision and coordination resulted in unfavorable situations such as:

(1) An almost total lack of organized, supervised training. That training was necessary in many units was brought out in one case by the fact that one battalion had to be re-grouped and re-trained as a result of its obvious inefficiency.

(2) Incorrect tactical procedures, such as poor camouflage discipline and inadequately manned equipment. In many units visited I saw fire units that could not have possible gone into action against surprise attack.

(3) A feeling among separate, or small detached units, that they were orphans. This was particularly true of the separate .50 caliber airborne machine gun batteries.

(4) Best-trained units were kept in rear areas and poorest trained units were given front-line assignments. Two batteries of one 90mm battalion were placed on an anti-tank mission only 10 miles from the outpost line, which, in my opinion based on questioning the battery commanders concerned, would have been far better off in a basic training area.

b. The control of all AA in the theater was vested in a committee which operated at Allied Force Headquarters. Members of this committee came from the Air Staff, the Navy Staff, the General Staff, and the AA Section of Allied Force Headquarters. It originally began by being called the Air and Coast Defense Committee; however, it functioned almost entirely to control

the allotment of the AA which is available in the theater, although it normally did not consider that AA which was attached to active divisions, corps and armies.

7. TRAINING FACILITIES FOR ANTIAIRCRAFT.

a. For the training of American AA troops in the United Kingdom, see Appendix No. 3 to this report.

b. There were no training facilities in the North African theater; however, steps had been taken by the Training Section of G-3 of Allied Force to obtain certain training aids, such as Stiffkey sticks, projectors, training films, and tow-target detachments. It was practically impossible for units to obtain missions; consequently, the only tracking that many units received was the result of the appearance of a stray plane. Units in defense of airfields were able to "keep well in practice" by tracking on the planes stationed at the fields. And there were those units which received their practice on enemy planes. This observer feels that there is a definite need for study to be given to the establishment of a training center for AA in the North African theater.

8. INTELLIGENCE.

a. Identification of aircraft is an acute problem in North Africa. Instances of friendly troops firing on friendly planes have been numerous--too numerous. Often the results have been that the friendly planes have been destroyed.

I feel that the only real solution to the problem of identification of aircraft does not lie along the lines which we are now teaching in training camps. The original acceptance of the responsibility of identification by the ground troops was a mistake. The responsibility of making known the presence of a friendly plane should be the primary responsibility of the Air Corps.

It is felt that there is a definite need for an effective system of instruction to enable all ground troops to become competent in the subject prior to departure from the States for an active combat zone.

It is possible for men to become experts in the visual identification of aircraft. The British have proved this. I witnessed some demonstrations by members of an American automatic weapons battalion that were amazing. This battalion has been trained for some time in the British Isles. They had also obtained from the British an excellent pair of field glasses for most of their detachments. It is necessary that each AA fire unit be equipped with an excellent pair of binoculars to facilitate the identification of planes while they are still at some range from the position.

RECOMMENDATIONS:

1. That, in the future, all fire units of the AA be equipped with a pair of binoculars equivalent to the ones which are, at present, issued to searchlight units for use on the control station.

2. That immediate steps be taken to equip those units which are now in the active theater with the same type of binoculars.

b. Types and Tactics of German Aircraft.

(1) The Germans are using primarily four types of planes in the North African theater:

(a). The Ju-87--the Stuka dive bomber.
(b). The Ju-88-the twin engined medium bomber that is used by the Germans in many roles. It is used for reconnaissance work, high and medium high level bombing, dive bombing, glide bombing and strafing.
(c). The Me-109 and the FW-190--both single engined fighters which are also used for strafing and dive-bombing. Occasionally other types of planes are used, such as the FW Kurier and the Me-110; however, practically all operations have been carried out with the above types of planes. The transport most used is the Ju-52

(2) Day bombing of other than the forward-area elements did not exist. The Allied Air Forces had made the attempts too costly for the Germans to make this type of bombing pay. Day bombing was restricted to low-altitude bombing, dive bombing, and strafing of forward-area elements. The majority of the day attacks would come just at daybreak or just before dark. Attacks at other hours of the day would invariably come out of the sun. The number of planes in an attack by fighters would usually vary from 3 to 10. Early morning attacks were likely to come in from almost any direction. Sometimes the planes would come in singly and sometimes they would come in flights of two or three. They would bomb or strafe and then leave immediately. In approaching, the attacking planes in these cases generally remained low and close to the ground so they would be difficult to see. They would invariably favor an approach that would give them concealment from the elements which were protecting the area which they were going to attack, usually an airfield. The attacks would usually be at speeds in excess of 400 miles per hour.

Dive bombing by Stukas and Ju-88's was practically always escorted by fighters. They would come in at an altitude of around 12-15000 feet and dive as low as 500 feet, if they were permitted to do so by the defending elements. In every case reported, automatic weapon fire was sufficient to keep the Stukas from coming low enough to make them effectively accurate with their bombing. The German pilots would not come down into the fire of the automatic weapons. Often the fighter escort would precede the Stukas by two or three minutes and attempt to draw AA fire and pull away any air cover provided in the way of friendly fighters.

A great deal of strafing was done in the forward areas, particularly against single vehicles and convoys without sifficient protection from .50-caliber machine guns. The German pilots would attack any sort of a vehicle, even a motorcycle. Command cars were probably the most popular type of target. (Sedans just didn't travel around in the forward areas during the day.) However, it was found that German pilots would not push home a strafing attack on a truck column that was resolutely defended by the fire of .50-caliber machine guns.

RECOMMENDATION: That the allotment of .50-caliber machine guns be on the basis of one for every two trucks for units likely to be operating on the forward areas.

c. AAAIS. (1) In most cases, in rear areas, the AWS worked as well as could be expected; however, it was not perfect. Several instances occurred in which planes entered the area and bombed before the warning came from the AWS. On one occasion at ALGIERS, a Ju-88 came over during the middle of the day at a low altitude of about 3,000 feet, circled the city, and flew out to sea without a shot being fired at it. That units should operate their own AAAIS even though there exists a fairly adequate warning system in the vicinity is based on the following:

(a) It is axiomatic that an efficient warning system is essential to successful operation of any AA.

(b) It is the mission of the AA to be ready for any attack and to fire on it when it comes; if this involves a great deal of waiting and the use of personnel in operating an AAAIS, it is unfortunate, but must be done because an AWS is not infallible.

(c) When a unit moves forward to a more active zone, it is very likely not to have any warning system of any kind except that which it provides for itself. If it has operated its own in the rear areas, then it will well know how to do it in the forward areas.

(2) The 106th Separate Coast Artillery AA Battalion operated a local warning system that was simple, efficient, and 100% effective. The battalion was defending a rest area of units of Combat Command "B" of the 1st Armored Division near SOUK EL KHEMIS. Four SCR 543 radio sets (which were all the battalion had) were placed on 3/4-ton weapon carriers and sent to selected points which were along the most probable routes of approach, and about 20-25 miles from the defended area. Each truck had a crew of three men, the driver, the radio operator, and the observer. The warning was sent back to the battalion radio set (SCR 177), and immediately telephoned to all gun sites and to the headquarters of the combat command. This system worked 100% and is now used by the battalion wherever it is employed. Units of Combat Command "B" did not fire at planes until the attached AA unit first opened fire.

RECOMMENDATIONS: 1. That each AA battery (gun and automatic weapons)

be equipped with four SCR 545's (or efficient radios operating up to around 30 miles) so that it can operate an efficient AAAIS even when it is detached from the battalion, or that each AA battalion (gun and automatic weapons) be issued sufficient SCR 545 radio sets so that it can operate an efficient AAAIS and also furnish any detached battery, or two batteries, with means by which they will be able to operate an efficient AAAIS.

2. That study be given to the development of a simple Radar unit to be used for local warning purposes with an AW battalion.

9. ORGANIZATION.

a. Based on the employment of AA in North Africa, certain facts appear to be obvious concerning the organization of AA:

(1) Much of the employment of AA will be by fire units, by platoons, or by batteries.

(2) The battalion is the most efficient higher tactical and administrative unit above the battery.

(3) In any theater the presence of a higher headquarters, such as an AA brigade is completely essential for purposes of coordination and supervision.

(4) In certain cases it would be advisable to form composite battalions consisting of automatic weapons, guns and searchlights.

b. Based on the statements made in la and b above, it is felt that certain steps should be taken to make certain the most efficient employment of AA. The battery organization of AA units (this is particularly true of automatic weapon units) must be strengthened both in personnel and in equipment. Further, during the training period of a unit, the training of batteries as separate units must be stressed. It is particularly important that battery commander be given every opportunity to operate entirely on his own.

The changing of T/O's and TBA's to accomplish the first suggestion should consider the following points:

(1) When a battery is operating alone, the maintenance of motor vehicles becomes more of a direct problem of the battery; consequently, the motor maintenance section should be strengthened both as to personnel and equipment.

(2) The medical section of a battalion does not have sufficient enlisted personnel to enable it to have aid men at all places they are needed. Automatic weapon units are often spread over a large area, and it is essential that the aid man be "on the spot". Additional personnel is necessary.

(3) At present, when a battery, or two batteries, as is often the case, are operating detached, there is no way of providing an efficient warning system with the equipment it now has.

(4) Batteries of automatic weapon and searchlight battalions must be so equipped that fire units (individual guns and searchlights) are able to cook on sites.

RECOMMENDATIONS: 1. This observer feels that our present battalion and group organizations are sound. Unquestionably no organization is able to fit all situations, but the building up of units (in automatic weapon and gun battalions) in increments of four guns will solve almost any requirement. It is my opinion that no change should be made in the present plans of organization, other than the strengthening of individual batteries as has been suggested, and the possible formation of a composite battalion.

2. There appears to be a definite need for a composite AA battalion to provide an intact organization for the defense of certain V.P.'s which are not of sufficient size to require a full battalion of either guns or automatic weapons. While it is not possible to ever pre-determine the exact scale of AA, a battalion consisting of two gun batteries and two automatic weapon batteries, would be an organization most likely to meet the most requirements.

3. The necessity for a number of brigade headquarters was quite obvious. The AA Section of Allied Force Headquarters could not provide the necessary supervision and coordination with the few officers it had. An example of need is brought out in the case of a 90mm gun battalion being ordered on a vital, forward-area assignment with less than one-half of its fire control equipment.

10. TACTICS.

a. General. American doctrines in the tactical use of AA have proven to be sound. AA has been called to act in practically every role stated in FM 4-105 as being proper roles for AA. The conception of the necessity of AA protection for ground troops has been emphatically brought out.

b. Automatic Weapons. (1) A battalion will seldom be called on to function as a complete unit. For example, only one automatic weapons battalion in the theater was functioning as a unit at my departure from the theater. On many occasions, even batteries were broken up and had platoons operating many miles apart.

RECOMMENDATION: During a unit's stay in a training center, the training of batteries to function as separate units should be stressed.

(2) Mobile automatic weapons units must be extremely mobile to function with such units as armored divisions. Movement of units with only 15 minutes' notice will often be required.

(3) Tactical disposition of a unit's weapons will practically always depend on the terrain. Low altitude attacks on a vulnerable point will often require guns to be sited a distance of 1000 yards or more from the V.P. so that the 40mm guns will be able to track close in targets. The basis of the disposition of guns will be: "Where do you want your fire?" In one case, a unit shifted the majority of its guns to meet constant attacks from out of the sun at the same hour each day. Another unit sited its guns to bring fire on two prominent valleys which were always used as alleys of approach.

(4) Many units in rear areas fired automatic weapons at night, although the targets were not illuminated. This observer is of the opinion that our doctrine of not firing automatic weapons at night at unilluminated targets is sound. Units in forward areas did not fire at night unless the V.P. were definitely located and directly attacked.

(5) Barrage fire is used by automatic weapons in two ports--BONE and PHILIPPEVILLE. Officers at these points are convinced of the effectiveness of this type of fire the way that they use it. For example, at the port of PHILLIPPEVILLE, guns are sited to fire along the logical route of approach, which is down a valley which ends right at the harbor. Attacks on this port have generally come down the valley. Six guns are sited so that they set up a cross fire at two different altitudes. To accomplish this, the guns are fired at a fixed azimuth with varying elevetions. Six rounds are fired for each barrage, each at a different elevation. Fire is then ceased. If the chief of section can still hear the approaching planes, six more rounds are fired.

(6) It is a "must" that all possible road movements are made at night. The unit must be in position ready to fire when daybreak comes. One unit lost nine men due to the fact that they were not in position at daybreak and had to go into position without digging in. Work parties should be sent ahead early to prepare the selected positions prior to the arrival of the fire units.

(7) Tactics of small infantry units should be stressed so that an AA unit is able to defend itself if the occasion arises. One machine gun unit was surprised by a German patrol and five men were killed and two captured.

(8) Battery commanders will often be called on to make decisions which would normally be made by the battalion commander; consequently, battery commanders have to be thoroughly grounded in tactics.

(9) Command posts should not, where possible to do otherwise, be placed on the V.P. In forward areas, command posts will often have to be dug in. Sufficient cover is not always easy to find on a desert.

(10) Accurate record of enemy attacks should be kept. Enemy tactics often can be met by shifting guns to meet an oft-repeated attack.

For example, attacks on the harbor at ALGIERS invariably came over a very prominent hill. Four guns were shifted to meet this attack.

(11) It was the consensus of opinion of AA officers in the theater that the 40mm gun is not a suitable weapon for anti-tank defense in a primary role.

(12) The most profitable procedure for the crew of any AA gun to follow when the gun is attacked directly is to stay on the gun and fire back as long as the gun will fire. This doesn't mean that a chief of section should get his gun crew killed to prove this contention, for it would be impossible to fire at two planes attacking a position at the same time; however, on several occasions, it was proved that an attacking plane would invariably turn aside if confronted with well-directed fire of a 40mm gun.

(13) No fire by automatic weapons at an illuminated target was observed; however, this observer feels that searchlights would be able to illuminate a target for the fire of automatic weapons if the searchlight crews were properly trained and given sufficient time to practice. However, it is also my opinion that a passive defense is the best solution for night around forward-area elements other than ports.

(14) Selection of alternate positions must be as routine as selection of actual positions. When time permits, prepare these positions for immediate occupancy. Make them into dummy positions. Dummy positions have been found to be of value in confusing an enemy plane as to which position should actually be attacked. In the case of one battalion, these positions were placed about 100-150 yards from the gun position itself. In one case, dummy positions were placed at normal distances of about 600-800 yards with the intention of confusing the enemy as to the actual number of guns in the defense. It was not known as to the extent of success in this scheme.

(15) Firing at flares by 40mm guns proved too ineffective. Machine gun fire would break up the flares, but in forward areas, it was felt that the expenditure of ammunition and the risk of disclosing the location of a defended area outweighed the advantage of destroying flares. This was based on the obvious difficulty the enemy had in locating V.P.'s even with the use of flares.

(16) Despite the many disadvantages of construction and design (see Appendix No. 4, Question No. 8 on automatic weapons), the 37mm gun with two .50-caliber machine guns on the half-track was very well liked and had proved to be excellent for protection of columns. They had not been used extensively prior to my departure, but the results of their limited use had been satisfactory enough to cause plans to be made to attach all of these guns to units in the forward areas. The great advantage of these guns which appealed to everyone was the mobility. They were the answer to the many "odd" jobs the AA was called on to do.

(17) For employment of separate airborne .50-caliber machine gun batteries, see Appendix No. 5.

c. Guns, Searchlights and Radar Units. (1) In the North African theater there were five battalions of 90mm guns and seven battalions of searchlights. Two of the searchlight battalions had just arrived at my departure and were under the command of Colonel Goodman who was to set the group up in the defense of an area for the primary mission of working with fighters. The other five battalions were parts of the five AA regiments in the theater.

(2) Although the action participated in both by 90mm guns and searchlights had been limited, the results obtained tended to prove the soundness of our tactical doctrines.

(3) Heavy AA protection of forward elements will be needed against a determined enemy attack. Enemy pilots soon learn the effective range of the 40mm guns and stay just out of this range in performing their missions, unless heavy AA is present. One battalion commander of an automatic weapons battalion stated that at one time he "would have given an arm for a couple of batteries of heavy AA"; this he said as a result of five days of extensive bombing by enemy planes of an area which his battalion was defending. The planes would stay just outside of the range of the 40mm guns. (Note: To illustrate the alertness of the Germans, a heavy British battery was moved into this area during the fifth night, but the Germans did not come back the next day.)

(4) The mobility of the 90mm gun for use with extremely mobile elements in the forward areas had not been tested; however, the British 3.7" heavy AA guns had proved to be surprisingly mobile in their use with the British First Army. In my opinion, the 90mm battery (excluding the Radar unit) is more mobile than the British 3.7" gun everywhere except on soggy ground.

(5) Extensive use of the 90mm gun in an anti-tank role seemed very likely. Two batteries which were on that role had seen no action against tanks. Firing by 90mm batteries at tank targets should receive considerable attention in a unit's training.

(6) Nothing in the employment of the SCR 268 had disclosed any information which was not already known concerning this instrument. It had been used to directly control the fire of heavy batteries in unseen fire but an attempt to verify the results which were originally reported disclosed the fact that the altitude which was actually used in the director was not accurately received from the SCR 268.

(7) The SCR 268 was not used with the units which were given a primary mission of an anti-tank role.

11. TECHNIQUE.

a. The M-5 director for 40mm guns has proved itself as an ideal means of fire control for automatic weapons with certain limitations:

(1) The director is unable to stay on a fast-moving target at close range; that is, one going 400 miles per hour or faster and at a range of 600 yards or less.

(2) For units operating in a mobile role the director is not rugged enough to stand its being constantly moved. This will happen despite care on the part of using troops.

(3) Even for well-trained crews, to properly orient the director with the gun takes too long.

b. One American unit in the theater had obtained six Stiffkey sticks from the British and has used these means of fire control over a great deal of action. They were completely "sold" on this instrument for use in the mobile role. This observer first heard of the Stiffkey stick in May, 1942. I did not see this instrument before I left the United States. Allied Force Headquarters requisitioned sufficient Stiffkey sticks for all AW units in the North African Theater during December, 1942; yet, when this observer returned to the United States, he discovered that this instrument was before the AA Board for "testing" and had been since Sept. 8, 1942. It is this observer's opinion that the proper fire control comoination is the Stiffkey stick and the M-5 director. That the director is difficult to use in the mobile role is admitted; however, it can be done in many cases, and should be done. One unit operating with an armored combat team used its directors. In one instance this unit obtained three hits on three successive rounds, using the director.

c. Use of the M-7 director for heavy AA guns had not been tested in battle in the mobile role.

d. Gun crews of automatic weapons should track any unidentified plane until it is identified. This factor is very important for success against surprise raids.

e. It was the opinion of many officers in the automatic weapons battalion having the most combat experience that "deterrent" fire was of value to a well-trained detachment commander, particularly against dive bombers. Their opinions were based on a 5-day experience of constant attack from dive bombers whose "pull-out" was kept well up due to the effect of the fire of 40mm guns. I concur in the opinion of these officers. The essential element of success of this type of fire is that the tracer stream must be in front of the attacking plane. Deterrent fire at level flight bombing had little effect.

f. Targets for automatic weapons should be engaged at a range

sufficiently great enough to enable the crew to get "on target", track smoothly, and open fire at the maximum effective range. In changing targets, this procedure is particularly important. The initial tendency of chiefs of sections new to combat was to change to a new target that was too close to the old target to permit accurate and effective fire to be laid on it. These "new target" ranges should be a minimum of approximately:

(1) 1200 yards for .50-caliber machine guns.
(2) 3500 yards for 40mm guns with directors.
(3) 3000 yards for 40mm guns using forward area sights.

These distances must be taught to chiefs of sections in training by the use of more than one target plane. It must be remembered that the chief of section must be able to estimate these distances with only a quick glance.

g. The use of continuous fire for 90mm guns is inadvisable except under certain circumstances, such as a raid consisting of a great number of planes in a formation. It is essential that the first few rounds be accurate. Observations of five actions by two 90mm batteries at a single enemy aircraft at an altitude of 20,000 to 24,000 feet brings this out. Only on one of the courses fired was the fire sufficiently accurate enough to cause the plane to turn aside. All of the rounds fired with the date computed prior to its turning aside were wasted on this course. This amounted to approximately 20 rounds in this one case.

h. One unit recommended the use of automatic fire against dive bombers for 40mm guns. This unit used this type of fire against dive bombers and believed that it was effective in making the pilot pull out of his dive, and often jettison his bombs.

12. MISCELLANEOUS AA OBSERVATIONS.

a. Gun Emplacements. (1) Although there were instances of AA positions being directly attacked by enemy aircraft both by strafing and dive bombing, there was no instance observed or reported in which a gun implacement was hit directly by a bomb. Bombs in one instance hit closely enough to a gun pit so that the drater edge was within five feet of the pit. No one was injured except for minor concussion and shock. This pit was well dug-in, level with the ground. Gun emplacements are 100% effective against any bomb which doesn't directly hit the emplacement except for those men whose duties compel them to keep portions of their bodies above the edge of the emplacement.

(2) The most effective type of emplacement against all types of bombs is the built-up implacement. To be completely effective, the walls have to be thick enough--three sand bags, two spanners, and an outside row of headers, in width--(5' at the top and 9' at the bottom). However, the built-up type of emplacement is not practical for units operating in forward area where ability to move rapidly is important. The pit generally favored in this case is one which is half dug-in and half built-in, the dirt from

the hole being used to build the revetment around the gun pit. Even in this type of pit, an inner row of bags will have to be laid to keep the dirt from filling up the pit.

(3) All gun pits should be as small as possible; just enough room must be left for the gun crew to serve the piece with freedom. The muzzle of the gun must be on the outside of the pit.

(4) In forward areas, it is often necessary that guns be moved into a new position before the crew has adequate time in which to construct an effective gun emplacement.

RECOMMENDATION: That study be made of providing an explosive which will completely loosen the dirt for a gun emplacement so that the only required work is that the dirt be scooped out with a shovel.

(5) Ammunition which is not used in the gun pit should be well dug into the ground on the outside. It should be seperated into several different places. In the gun pit itself, do not allow the primer end of unfired shells to be exposed to empty cases or machine gun bullets of strafing planes.

b. Slit Trenches. (1) In the North African theater, slit trenches were dug only for those personnel who would not be actively manning a gun. Normally, they were not dug around gun positions. It has been definitely found that almost any man had rather be manning a gun hitting back at the enemy than lying in a slit trench.

(2) The length of the trenches seen varied, but in the entire theater only one was seen that was not deep enough. They were generally about 5' deep--never less then 4' deep-- and were about 20" wide. The lengths varied from 3' to 10'.

c. Living Quarters. (1) Only in rare cases was use made of the shelter half. In almost every case that it was used, it had been dug into the ground so that the top of the tent was level with the ground.

(2) Gun positions were most easily recognized when the position was given away by the proximity of one or more tents. In units which had gone through the experience of having gun pits attacked, one never saw anything near an emplacement that might give it away. The men slept at a distance away from the gun, usually around 100-150 yards.

(3) Always and forever stress sanitation and personal hygiene. A man in the hospital from dysentery is just about as worthless as one there from a bomb fragment.

d. Ammunition. (1) In every case observed of [illegible] action for the first time there was a tremendous waste of ammunition. Despite orders to the contrary automatic weapons would open up just as soon as they

saw or heard another gun go off. Even in more experienced units the tendency was to fire many times when it is useless. This appeared to be the result of failing to fire enough while in training to thoroughly instruct the cheifs of sections in fire procedure.

(2) American 40mm ammunition was strongly favored over the British 40mm ammunition by the unit with the most combat experience. The British ammunition would burn from 7½ seconds while American ammunition would burn from 8 to 10 seconds before the self-destroying element would work. This unit also had two men seriously injured from the explosion of a defective British 40mm round.

e. Firing on Friendly Planes. (1) Many occasions arose in which our troops, AA and others, fired on friendly planes. There have also been cases of friendly planes bombing and strafing our own troops. Many officers contended that the proper procedure would be to fire back at our own planes if they made a mistake and strafed our troops. This was done at ORAN during the landing, with the result that two were destroyed. It is this observer's opinion that if a plane errs and strafes its own troops, fire should not be directed back at the plane. The chance that it might be a captured plane is too remote. One mistake will certainly not correct another in this case.

f. Care and Preservation of Equipment. (1) Units in North Africa, except in rare cases, took excellent care of their weapons. This was particularly true of those units which had participated in action against the enemy.

(2) It was found that it was completely necessary to conduct the daily maintenance period by schedule in order not to have more than one gun out of action at a time. One AW chief of section had the experience of twice being caught cleaning his gun during raids; from then on his crew cleaned its gun at night.

(3) During periods of heavy action it will be impossible for automatic weapons to clean guns during the day, and the cleaning will have to be done at night. One unit conducted a schedule of two hours per night.

(4) No particular problem in maintenance was encountered, except that the most experienced battalion found that our graphite grease would not stand up under continuous periods of fire. This battalion had served with the British and had obtained from them some of the lubricant known to the British as "white lubricant". They stated to me that it was the only thing that they had found which would stand up under the heat of continuous fires. That they believed this to be true was evidenced by the fact that it was treated as though it were gold by the chiefs of sections, as it was very scarce.

(5) The biggest headache encountered was the almost total lack of spare parts for AA materiel. That such a scarcity of such vital parts could exist in such an important theater was difficult for this observer

to understand. The Ordnance maintenance companies which were in the theater were handicapped unduly because of this fact. In attempting to trace down what had been done on the matter, I was informed by an Ordnance officer in charge of handling AA materiel at Allied Force Headquarters that a special shipment of these necessary parts was being made from the United States. This shipment was a direct result of one long, continual complaint on the part of the using troops as to the shortages. It is absolutely essential that AA fire units be shipped as units, with sufficient spare parts and accessories to maintain the unit for a reasonable time.

g. Ordnance Maintenance Units. (1) Ordnance units, in this observer's opinion, are by far the best services of any of the service elements; however, they are sorely handicapped in North Africa. There were shortages of spare parts. There were shortages of trained personnel to work on AA materiel, and those who were trained had the responsibility of maintaining the arms of other branches. I will never forget one very tired technical sergeant of the Ordnance whom I ran into by chance one night. He had been working with a unit for 10 straight days and most of the nights. He said, "Major, I have been working on Ordnance for 17 years, but I just can't fix this stuff without any spare parts. Can't you get those people over there to do something about such things?"

(2) In my opinion, there is a definite need for organic Ordnance personnel within the AA units down to the battalion. This personnel should be so trained and so equipped that it is able to repair and adjust any material in the hands of that battalion. The undersigned feels that such an addition would solve many of the complaints that exist against the lack of ruggedness in the M-5 director.

h. Camouflage and Concealment. (1) Generally, the troops of American AA units did not exhibit a startling knowledge of the principles of camouflage. This is probably due to the fact that there were not many instances of gun positions being attacked by enemy planes. Further, the problem of camouflage was a difficult one. Most operations of AA units left the gun positions without any means of camouflage except artificial, and material was scarce. The general scheme was to make the gun position blend with the background, and this was often successful. I flew over most of the positions of units around airfields, and many of the positions were difficult to locate even though I knew where they were and was flying in a slowly-moving plane. Nets were not used at all in the forward areas by American AA troops at gun position. They were used on vehicles.

(2) In rear areas, some 90mm gun batteries had accomplished fine jobs of camouflaging in gun batteries. Nets were used in some cases, but not in all.

(3) In forward areas, concealment was obtained generally by digging everything down to the level of the ground, and covering it with earth or with dirt the same color as the surrounding ground. This was done for shelter tents, and even the airfields base operation room was dug down level with the ground.

l. Medical Detachments in AA Units. (1) In conversations with many medical officers in AA units, I received the very definite idea that they were almost useless. One captain stated to me that there was almost nothing that he could do for a man that any of his aid men could not do, and that the chances were that he would not be at the right place, anyhow, for the units of the battalion were scattered over many square miles. This was true in the case of most battalions.

(2) It is felt that there is no need for the number of medical officers in an AA unit that now exists. This is particularly true of automatic weapon and searchlight units. It appears that the solution lies somewhere along the line of an increase in the number of enlisted personnel in the medical detachments and a reduction in the number of medical officers.

APPENDICES
(On file at Hq, AGF.)

No.	Title
1	Itinerary.
2	Recommendations on Training in Identification of Aircraft.
3	Training of American AA Units in the United Kingdom.
4	Answers to AA Questions Submitted to the AA Command, and the G-3 and Requirements Sections, Hq, AGF.
5	Separate Airborne .50-Caliber Machine Gun Battery.
6	Photographs Taken in North Africa.
7	Notes on Fighting in Tunisia--TM's from Allied Force Headquarters.
8	Letter to the Commanding General, Army Ground Forces.

END

George W. Croker
GEORGE W. CROKER,
Major, C.A.C.

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HEADQUARTERS
ARMY GROUND FORCES
Army War College
Washington, D.C.

By Auth CG, AGF
Date 3/23/43
(Initials)

319.1/45 (Foreign Obsrs) (S)-GNGBI.
(3-23-43)

March 23, 1943.

SUBJECT: Observer Report.

TO: Commanding Generals,
Second and Third Armies,
III, IV, VII, VIII, IX,
X, XI, XII, XIII and XV Corps,
II, III and IV Armored Corps,
Airborne Command,
Amphibious Training Center,
Antiaircraft Command,
Desert Training Center,
Mountain Training Center,
Replacement & School Command,
Tank Destroyer Center,
Chief of the Armored Force.

1. The inclosed briefed report and appendix of Colonel John H. Carruth, CE, Observer from Headquarters Army Ground Forces to the United Kingdom and North Africa, for the period November 18, 1942, to February 14, 1943, is furnished herewith.

2. Distribution to divisions has been discontinued by the Commanding General, Army Ground Forces. Reproduction and distribution of observers' reports to subordinate units is not authorized.

3. The data and recommendations contained in this report represent the views of the individual observer and are furnished for information only. 19

4. Changes in training doctrine as enunciated in War Department publications, which are necessary because of the information contained in observers' reports, will be published by the War Department. Changes in training directives of this headquarters, which are necessary because of information in observers' reports, will be promulgated by this headquarters.

By Command of LT. GEN. McNAIR:

J R Dryden

J. R. DRYDEN,
Lt. Col., A.G.D.,
Ass't Ground Adjutant General.

1 Incl - Report of Military Observer.
W/1 Incl.
(Information copies to WDGS, ASF, AAF.)

CLASSIFICATION changed to
Unclassified
Authority War Dept AGAD 7AS2
By Catherine Zeilberg

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SECTION I - UNITED KINGDOM

1. My stay in the British Isles, from November 18, 1942, to January 20, 1943, coincided with a transition stage of the European Theater of Operations. To equip the North African units and give them the requisite 15% overstrength personnel for replacing initial losses, not only depot stocks, but also the American combat troops were depleted; 29th Infantry Division was a typical example. The sending of key staff officers to North Africa resulted in frequent changes in the higher United Kingdom Headquarters. Training, although affected by these changes, was rapidly being stabilized. Following are the conclusions derived from my stay:

a. Training Facilities. Distinctly inferior to those in the United States, particularly for combined training. Government owned or leased areas and training aids, such as often surround camps in this country, are noticeably lacking in England. Rifle ranges are usually small, and inconveniently located; combat range facilities even more scarce. My conclusion is that all advanced training should be completed in the United States, rendering units ready for combat service upon arrival. Training in the United Kingdom should be directed either toward maintaining this high standard, or such specialized work as may be required for the particular operation in which the units are to participate.

b. Weapons Training. Proficiency in both primary and secondary weapons should be attained before leaving the United States, because of the lack of combat range facilities referred to above. Serving an adequate supply of all types of ammunition, not in driblets, but in such quantity as to permit continuity in progressive training and proficiency in all weapons before departure to the European theater, should be given a high priority here. Nomenclature, disassembly, assembly, repair, and maintenance of all weapons should be stressed.

c. Hardening of Troops. Consensus of opinion among officers encountered was that physical conditioning should be emphasized more than it has been, in this country, to include long marches with full equipment. This training should be so intensive as to permit the weeding out and transfer to non-combatant duties of all men not physically fit. In the hardening program of the 29th Infantry Division in southwestern England, 300 men were found unfit.

d. British Battle School Training. I believe this to be superior to ours in its use of live rifle and machine gun ammunition to accustom the men to fire; and its use of smoke, plastic grenades, and torpedoes to accustom them to the sound of battle.

e. Dissemination of Training Lessons from North Africa. Definite arrangements should be made for the receipt of lessons from combat operations, and for their transmission to troops in training.

f. Loss of Training Time through Lack of Equipment. Our present method of sending divisions to the European Theater of Operations results in a four to eight-week delay in receipt of organizational equipment on cargo ships. Appendix 10 summarizes a plan of Major General Gerow, commanding 29th Infantry Division, which is recommended for consideration. Each division sent overseas would be streamlined and issued new organizational equipment from depot stocks on arrival which would result in:

(1) Saving shipping space through use of knocked-down factory-packed equipment.

(2) Elimination of shipping costs for equipping these divisions.

(3) Issuance of new equipment only to seasoned divisions.

(4) A saving in replacement loads.

SECTION II - NORTH AFRICA

2. In view of limited time available, I made only two trips in this area, one to the Tunisian front; the other through rear areas with particular attention to Engineer activities in roads, bridge and building construction, both British and American. These factors I considered significant in the rear areas:

a. The generally good system of main roads, which are all-weather and require only maintenance supervision.

b. Superiority of blackout in combat zone to that of maneuvers at home.

c. Widespread use of slit trenches.

d. Lack of uniformity of camouflage discipline.

12 Appendices, (On file at Hq, AGF, except No. 7, attached hereto).

App. No. Title

1 Special Staff Set-up of Hq. European Theater of Operations.
2 Organization for Construction in ETO.
3 Airport Construction in the ETO in United Kingdom.

App. No.	Title
4	The Ctesiphon Hut Type of Construction.
5	British Set-up for Interpretation of Aerial Photographs.
6	Model Construction by Model Section of British CIU and Model Makers Detachment of ETO.
7	British Training in Street Fighting.
8	Views of Lt. Col. Charles H. Bonesteel, III.
9	Athletic and Hardening Program of 29th Infantry Division.
10	The Equipment of Infantry Divisions Dispatched to the European Theater.
11	Trip from Algiers to Tunisian Battle Front, Feb. 4-11, 1943.
12	Trip through Rear Area of North African Theater of Operations, Feb. 12-17, 1943.

END

1 Incl - App. No. 7.

JOHN H. CARRUTH,
Colonel, CE.

APPENDIX NO. 2

BRITISH TRAINING IN STREET FIGHTING

1. These observations were made upon the training conducted at the Street Fighting Wing, London District School of Tactics. Mimeographed training material and photographs taken at these classes are not included herewith but may be obtained upon application to Headquarters Army Ground Forces.

2. TRAINING AREA. The locale of the school is a devastated section of London, south of the Thames, known as the "Battlesea District". Most buildings are three-story, old and of soft brick construction, making it an ideal area for this purpose; about 30 acres in all are diverted to the school's use.

3. PERSONNEL. Since the infantry platoon is the combat unit, a very small training force is included. The Commandant and Senior Instructor is Major Keith-Cameron of the Coldstream Guards. He is assisted by one junior officer and one infantry platoon, training troops. This platoon is detailed in succession from the guard regiments for one month period. Lectures are given in one of the buildings but the majority of the instruction is in the form of practical demonstrations by the school platoon followed by detailed student training.

4. PURPOSE. To train junior officers of all British regiments in the firing and fire effect of all infantry platoon weapons, use of explosives available to the platoon, method of attack and defense of houses, searching and clearing of streets occupied by the enemy, and the attack of the platoon through a town to capture a strongly-held objective. Students are returned to their organizations as instructors.

5. SCHEDULE. Each course runs from 0900 Monday to 1130 Saturday for the 20 to 30 officers per class. In addition, a special course for Home Guard officers of the London District is included. This is given on two successive weekends from 1430 to 1630 Saturdays and from 1000 to 1630 Sundays, for 50 to 75 officers.

6. METHOD. Each phase began with a well-prepared lecture, usually by Major Keith-Cameron who talked extemporaneously while outlines were passed out to each student. Diagrams of battle drills and actual samples of booby traps, etc., were shown during the lectures, thus lending them a very practical touch. Following this, the school platoon presented two demonstrations in the street area.

a. Initially, the wrong way of crossing streets under fire and searching houses was given, with the inevitable casualties graphically represented.

b. Subsequently, the correct way of doing the same work was shown, while a detailed explanation was given by the senior instructor.

c. Finally, actual practice between student officers was engaged in, during which the performance of each was subject to critical examination by the instructor. Morale and interest of students was very high. With theoretical instruction reduced to the minimum, all students realized the value of actual participation in the demonstration.

7. BATTLE INOCULATION. In conformance with British belief in the necessity for accustoming troops to actual fire, every opportunity was made to place rifle and machine gun fire as close to the troops as reasonable safety precautions permitted.

a. In the first demonstration, well-selected enemy firing positions in a house a short distance away were observed by the student officers, placed in a line peering over window sills on a second story room. Students wore helmets and exposed themselves only enough to see into the windows and door openings opposite. Riflemen and machine gunners fired shots striking only a few feet above the officers' heads. In this first demonstration, students had great difficulty in locating any of the "enemy" except in those positions purposely poorly selected. Other firing was continued from posts 10 to 15 feet inside the rooms or halls, carefully selected to provide dark background into which the riflemen blended, thus disappearing from sight. The best of these was obtained by lying under the stairway leading from the ground floor to the upper hall and firing through a small opening created by kicking out one of the riser boards. Another excellent one was obtained by firing on the ground floor behind piles of rubbish.

b. At the end of the demonstration, each rifleman's location was shown, but as he moved back again to the original location he disappeared from view a second time.

c. It was pointed out that allowing the muzzle of a weapon to project from a door or window opening is suicidal. In old houses firing blasts will blow dust and so disclose positions. This may be obviated to some extent by wetting the floor or spreading a wet cloth or gunny-sack on the front of the muzzle. Care must always be taken to select background into which the fire will blend and to avoid light openings in the rear. Good rifle shots are trained to fire from both shoulders.

d. It was also pointed out that frequent changes in snipers' positions are a necessity. Concealment is given greater weight than frontal protection though both are considered important. Efforts are made to draw the enemy's fire to dummy snipers or fairly-well exposed but unoccupied firing positions.

[redacted] British use a type of gunny-sack material over their [redacted] with considerable success. In addition, they

normally wear a face veil when firing from houses. This is draped over the helmet to cover the face and upper part of the body with a dark mesh material which is protectively colored and motteled.

8. MOVEMENT. The basic principle is to minimize losses:

a. By reducing the size of the target. Units are trained to keep a minimum distance of five yards between individuals. The sole exception to this rule arises when a squad must be rushed across the street as a unit. This is done under smoke protection.

b. By reducing the time targets are exposed to fire. Men move from cover to cover at a run.

c. By reducing the exposure to fire. Street fighters are trained to hug walls and buildings, use dormer windows as cover, and dart into doors or windows as soon as the room is cleared. When moving over roof tops or across walls they must quickly roll over the ridges not cross them in an upright position. When moving down a street, scouts are trained to lie down and cautiously move to a suitable position rather than stand and look around a corner or wall. In this manner only his burlap-covered helmet will show and so resemble an old gunny-sack lying in the street.

9. POLE CHARGES. To show the breaching effect of pole charges or weapons on a brick wall, actual charges were fired and simulated casualties added to give realism.

a. The purpose of pole charges is to blast sufficiently large holes in brick walls as to permit men to enter a strongly-held building which could not otherwise be taken. When a succession of building walls is so breached in order to gain an objective, the operation is called "mouse holing".

b. Three methods of making up pole charges are used by the British, in order of preference:

(1) No. 75 ST (Sticky) Grenade. These are not effective against stone houses, but two of them will breach a man-size hole in a 14-inch brick wall. Where the brickwork is vertical and dusty, they will not stick, and a box or platform is required to support them.

(2) No. 75 Hawkins Grenade. Two of these are lashed to battens in cross shape and fired by instantaneous fuses attached to a time fuse for lighting. They will breach a man-size hole in 18 inches of brickwork.

(3) Guncotton Slab. These are mounted on battens similar to those used for the Hawkins grenade, except closer together. They require time charges and simultaneous firing and will breach up to 14 inches of brickwork, when two 1-pound slabs are used.

10. SMOKE. This was used freely throughout demonstrations in the form of screens obtained through hand-thrown smoke grenades and the 2-inch mortar-firing smoke shell. The latter is fired from a door or alley opening with barrel almost horizontal, so that the shells strike the opposite side of the street and ricochet back and forth between houses before finally dropping into the street.

11. DIVERSIONS. Troops are trained to create diversions for such purposes as carrying and placing pole charges. For instance, a rifle grenade may be fired through one of the enemy windows to distract attention, and the pole charge carrier given smoke protection.

12. BATTLE DRILLS. Searching of houses and clearing of streets are both taught in this manner. It should be noted that the British infantry platoon in the attack includes three sections, each corresponding to our 8-man squad, with a small platoon headquarters. The British section consists of a rifle group of four men and a light machine gun (Bren) group, of four men.

a. Clearing a House. This is a section drill, involving two riflemen called "entry men" to lead the way and secure the hallway for entry, a bomber, and then the section leader armed with a machine carbine. The latter two run forward on hearing the "clear" shout from the entry men and search the rooms of the house. One entry man remains on the first floor, but as the searchers climb stairs, the other entry man also goes up to watch stairs and landings without entering the room.

b. Clearing a Street. This is a platoon drill participated in by all three sections, which includes the drill for clearing a house.

(1) When a rifle group has searched and cleared a house, the Bren group of that section is signaled and moves in. Then the entire section is so posted as to place covering fire on the house opposite.

(2) At a signal (often bugle) No. 2 section clears and moves into the opposite house. Both then proceed up the street, alternately, clearing houses on either side. Section No. 3 gives covering fire to those houses not yet cleared and posts riflemen to fire into the "killing grounds", which are areas in rear of the two lines of houses.

13. WALL SCALING. Each participant carries a toggle rope two inches in diameter and about five feet long, with an eye at one end and a short stick attached to the other. These may be quickly connected together to form scaling ropes. Each section also carries a steel grappling iron with four grappling hooks.

a. By attaching this wire to a scaling rope, throwing it on to a rooftop and pulling slightly, the rope will become firmly attached to the roof and may then be used to swing from the window of one house into another across intervening space, or to climb vertical walls. Men selected

from the latter work must be of sturdy physique. When two men have reached the roof by this method, two toggle ropes are paid out to the bottom of the wall so that succeeding soldiers may fasten a rope to each foot and thus literally walk up the wall with comparetive ease, being assisted by those on the roof.

14. PISTOL FIRING. British doctrine maintains that aiming by eye is not practical in this close firing. On entering a room, the searcher is trained to assume a crouched position, holding the pistol in front of the center of his body and about at the pit of the stomach, with the right arm bent at the elbow. It may be pointed at an enemy by two simultaneous motions: (1) raising or lowering through motion of the right arm at the shoulder joint only; and (2) swinging to right or left with the entire body, using feet changes as necessary.

Two shots fired in rapid succession are a necessity; they should be aimed at the pit of the enemy's stomach. The first, if not injurious to the opponent, disconcerts him, but so steadies the fighter's nerve as to enable him to kill with the second.

a. For longer ranges than house clearing, however, aiming is necessary. Here the British teach that the pistol should be held in both hands with a rest wherever available. The fingers of the left hand are placed in front of and grasp those of the right. Where no rest is available, feet are placed on the same line and weight carried equally. Both arms are fully extended to the front with the right arm thrust forward in tension and the left arm exerting a pull toward the body, with the fingers of the left hand pressed firmly against those of the right.

15. INDIVIDUAL SEARCHING. Each student is required to do this himself in a house containing various types of Nazi dummies which bob up from behind furniture, run across halls or otherwise surprise the student. They are under the control of the instructor.

16. ASSAULT COURSE. This is the street fighting equivalent of our obstacle course, differing only in that it involves practical training, without artificial hindrances, in all methods of street movement. All types of battle outlined above are included. It must be run with full equipment and thus affords excellent conditioning.

17. CONCLUSIONS. Street fighting requires special training methods and facilities. It must be given to all troops destined to operate in enemy-occupied territory where resistance may be expected in towns. Difficulty of communication between tactical units remains a paramount problem, thus placing much reliance on individual initiative and morale.

18. RECOMMENDATIONS. a. That training in street fighting be conducted either by the Infantry School as a part of the training given to Infantry Officer Candidates, or as a separate school, to be attended by selected officers from infantry regiments in the AGF.

b. That training in street fighting be included in training of infantry regiments of all divisions which are earmarked for dispatch to theaters in which this method of warfare will be necessary.

c. That wherever this training is carried on, a typical section of a village be constructed, to consist, as a minimum, of two street corners, connected by a street one block long, with a row of houses on each side. These houses should be built of second-hand soft brick, simulating the results of shellfire, and with several alleyways to permit wall-scaling operations.

d. That the British battle drills in searching houses and clearing streets be the basis of instruction in these phases of the training.

END